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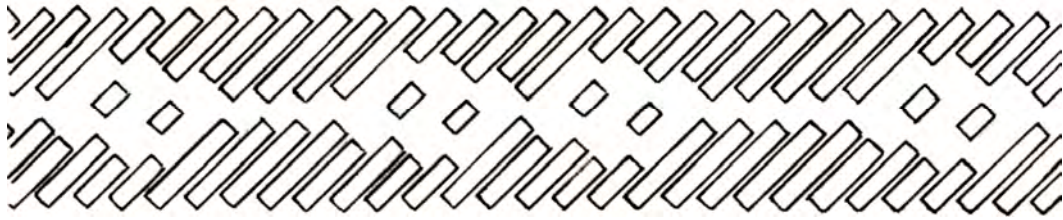
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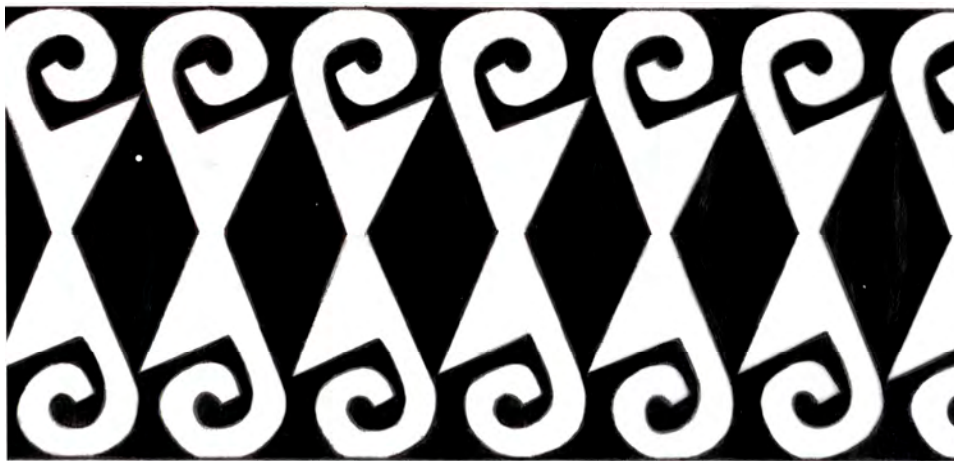


*Betek tali* - knots string (Penan)

## *'Betek, Tali ngan Atap'*

### **'Knots, String and Blades': Production and Use of Organic Utility Objects by the Orang Ulu of Sarawak**

MARIEANNE DAVY BALL



*Atap* - blades (Penan)

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Department of Anthropology**

**Submission for Ph.D.  
2009**

## **ABSTRACT**

The Orang Ulu people of the East Malaysian State of Sarawak comprise many indigenous groups. They live predominantly in the north-east of the State in highland rainforest areas and are both swidden farmers and hunter-gatherers. Many of the utility objects they use are manufactured locally from forest resources. As communications in the area have improved, new materials and technology have arrived and are influencing their traditional production.

This thesis documents the production of material culture by some of these groups. Using a comparative approach, it examines the processes that feature in material preparation, the tools used, and the various styles of objects made and the designs chosen. During fieldwork the techniques used in the production of the documented objects were learnt by observer participation until they were fully understood and the fieldworker could replicate them. The study includes many illustrations and explanations of designs and manufacturing techniques.

In addition the thesis discusses the changes that have occurred within these material culture assemblages. It considers these in relation to various issues, such as people's identity concerns and the commodification of their local products. It relates the objects to their maker, user and usage, investigating labour co-ordination in the region and gender issues pertaining to them.

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## INTRODUCTION

According to Ruth Barnes (1993: 83) 'South-East Asia is one of the most prolific areas for the production of basketry... Yet surprisingly enough, the making of baskets and their function and meaning in South-East Asian communities have not been given much attention.'

Here I try to give attention to the basketry and allied objects of one region of South-East Asia, giving a structure to the material culture assemblages, whilst giving a 'biography' to the empiric material types. By using a processual approach to the technologies, I put them in to context within the lives of those who make and use them 'to achieve a sympathetic and in-depth appreciation of their experience and objectives' (Sillitoe 1998 (ii): 224).

### The Research

This thesis documents the processes for making utility objects, together with the ways in which people use them. Using multi-sited fieldwork, I have focused on the material culture assemblages of some of the Orang Ulu groups (*Orang* - people, *Ulu* - up river) who inhabit the Baram, Rejang and Lawas watersheds in northern Sarawak. These ethnic groups vary in size, religion, access to services and lifestyle. They vary from those who traditionally were settled farmers, with structured social hierarchies, to hunter-gatherer populations; giving my research wide scope. I use the local umbrella term Orang Ulu simply as a matter of expediency, not because they are an homogenous group.

I decided to focus on the technology of three ethnically distinct Orang Ulu groups, the Kenyah Badeng, Kelabit and Penan, while comparing their technology to other Orang Ulu in the region. As Overing said 'We regard the everyday as *unremarkable*, and long to know about the remarkable - the shamanic journey, the hunting with blowguns and curare. The allure of the exotic bewitches us. As a result we are poor observers of lived daily life.' (2003: 298) I wished to change this opinion. These are not objects that generally have

ritual or religious meanings, nor do they feature in reciprocal gift exchanges, challenging a widely held assumption. '[A]nthropologists can call on their experience of living and participating in small communities, where to study the meaning of things is almost to always assume that such artefacts are "full" of meaning, often integrating various otherwise disparate elements of cultural life.' (Miller 1994: 397). Consequently, artefacts with little or no discernible meaning never seem to be discussed. The disincentive to studying such utility objects is that many of them just serve their purpose, which is often enough for those who manufacture them. These objects may not lend themselves to any standard anthropological analyses. For instance, not signifying or symbolizing anything other than work, some do, those with aesthetic properties. I took what people told me about utility objects at face value, not assuming meaning; conscious of the risk of ethnocentric imputation and subjective interpretation.

North-East Sarawak uses many plant materials in manufacturing things, together with some inorganic materials. Many of these materials are locally available and were recently abundant: their use, widespread in everyday life. Recently, a number of imported materials have joined these traditional organic materials due to increased access to towns.

Traditionally, almost everything manufactured in this region features plant material requiring further study. This dissertation concentrates on the *smaller* functional items, basketry and allied objects, which are needed in a basic sense. People also use plant materials in making larger items, such as shelters, rice stores, animal enclosures and boats.

## **Overview of the Research Area**

I chose the North-Eastern part of Sarawak, as my research area (it being situated centrally in South-East Asia, Fig.1.1), part of the Malaysian Federation, having lived in Malaysia for several years. I had become aware of the large number of basketry types produced by a range of ethnic groups with differing

value systems.

Like many small-scale societies, those in this area have, and are, facing rapid changes. During the nineteenth and twentieth centuries, many of these changes were caused by outside political policy and religion. During the Raja Brookes' era, the hierarchical systems of some settled Orang Ulu groups were eroded by a number of processes, including the introduction of central government, and anti slavery laws (removing one class from the structure). The introduction of Christianity at this time, partly replaced, the belief in animism. The impact on traditional *adat* (customary law) was considerable. With the introduction of development strategies, targeting health and literacy, that focus on permanent settlements; hunter-gatherer populations (Penan) have had to settle for periods of the year. This is seen politically as an advancement in their living conditions and is encouraged. Further major changes are occurring through advancements in transportation and the introduction of telecommunications; allowing greater movement and an influx of new people and ideas. All these processes have increased changes in an already fluid material culture and its sociotechnical arrangements.

### **Categories for Study**

The sphere of research was large: concerning the materials, manufacturing and use of utility objects, belonging to the three ethnic groups. I had to formulate a framework in order to structure my work. For instance, MacKenzie chose several communities from the Telefol language group and a single class of object, the *bilum* (string bag). Whereas, I consider several classes of object, produced by three groups and languages, that employ a variety of materials and technologies. While MacKenzie does not require a classification scheme within her research, my research needs one to arrange information.

Initially, I introduce the materials, techniques of manufacture, tools and patterns used by people living in the *Ulu*, contextualizing the initial stages of

'life' for the objects, prior to their 'use-life' recounted in the main body of the work.

Categories, for objects must be formulated where a large number are studied and questions answered about their 'social lives'. 'One can assume that the most fertile material objects, those which will yield the most information to a functional investigation, have multiple functional relationships with other aspects of the culture. But if the conceptual scheme involves placing each object in a narrow category, narrowly defined, these multiple interrelationships will be obscured.' (Heider 1969: 380). Further, 'Research in material culture studies has demonstrated that novel things can be assimilated to existing categories. This approach has implied that indigenous cultures in particular typically employ conservative strategies, in the sense that their recontextualizations of material culture aim to preserve a prior order, rather than produce a new one.' (Thomas 1999: 5). The categories I use in this study are the materials employed, the techniques used in production, decorative motifs, function and ethnic group.

I found analytical classifications useful to structure separate fields, such as materials, tooling, techniques (see fig.4.23) and decoration, but unworkable for multi faceted research. I use the place the object is used, its context, as the significant attribute for a classification (Rouse 1960, Gifford 1960). The objects' place of use forms the classes; and the jobs they do are the types. Using this structure, I compare materials, design, style, and processual techniques, within and across, the different ethnic groups. This approach mirrors the way people themselves consider these subsistence level objects (those in the home; the farm, the garden, and where they keep objects when not in use). There is no overriding category for basketry. When I asked Saloma she said that, where necessary, they use the Malay word *bakul* or handicraft, therefore, it was not a category classification I felt able to use. Bolton also describes this 'Ambaeans do not perceive textiles as a unitary category: they classify them separately. These

things are, to an Ambaeian, as self evidently distinct from each other as carpets and shawls are to Europeans.' (2001: 97) Bolton uses local categories to define the textiles she researches. Sillitoe (1988: 73) also found a similar problem as the Wola do not differentiate between digging sticks and clubs, classifying them all as *gemb*. In this case, he chose to use the two categories to aid understanding. Like Bolton, I have elaborated on the Orang Ulu scheme to form my categories.

There is some crossover of objects between work places (the hoe functioning equally at the farm or in the garden) or in object use (*tapan*, a tray used to winnow rice works equally well in the kitchen as a tray on which to sort vegetables). New uses are found, innovations made and further cross-over occurs. The *sarung* (a piece of attire) used by both men and women across South-East Asia illustrates such alternative use, being used as a blanket, a towel, a baby crib and carrier, a bag (slung across the body), to store things (as a protection against insects) or folded to form a doll. Allerton in her analysis, also notes the carrying of small goods, concealment of money and pregnancy; for privacy when bathing and finally, as a shroud (2007: 23 - 38).

## **Research Methods**

Spending many months, over several years, with the different Orang Ulu groups, I have studied their indigenous technical knowledge (I.T.K.) using interactive methods of learning and participant observation (Malinowski 1922). Prior to this fieldwork, I carried out a literature search on the area, its peoples and their practices, together with other basketry knowledge, to gain as many insights as possible into my study area, doing this both in the U.K. and on my arrival in Kuching.

I first visited the Asap area, part of the Rejang watershed, as many Orang Ulu groups have been moved here to make way for the Bakun dam project. This allowed me to get to know several ethnic groups simultaneously. I generally worked without an interpreter. A number of people in each village spoke

English, but much of my research was carried out in Malay (Bahasa Malayu) combined with some of the indigenous languages of the area, as I started to learn them (Bahasa Malayu is the official language of the area, while all sciences are taught in English at school). Initially, I familiarized myself with the object assemblages of the Kenyah Badeng, people allowing me to look in all corners of several homes. When visiting other groups in the area I, informally, asked questions of the home owners, thus building up an idea of what their various material culture assemblages contained. People in the other communities where I spent various periods also tolerated this 'poking around'. There were no prohibitions put on my researching any aspect of technology and usage of the objects.

Living with families in their communities, I was fully immersed in their lives, giving me the opportunity to observe first-hand and ask questions informally about objects and their use. This social interaction and observation allowed me to witness certain activities, such as the start and end of each day that I would have missed, including wrapping individual portions of cooked rice in leaves for the day (often at 4.00 a.m.). Initially, people watched me closely to ensure that I was managing. The fact that I was visiting alone for much of my time helped people to quickly relax with me.

Frequently, in the evenings, after the completion of the days work, people would gather on verandas or in houses and tell me traditional stories and local histories (I wrote these down later, at the first opportunity, choosing not to interrupt the telling as the teller would often shorten the story if I was writing. I would then show my notes to one of the people present for corrections and additions). It was during these sessions that I gained much tangential information for my study, this oral tradition brings the subject to life. In this way I learnt such things as, it is believed that one should collect bark for barkcloth during certain phases of the moon, or that if you burn *irop* (*Dicranopteris linearis*) waste it will bring about rain. Oral histories can be

subjective, changing over time as they are retold in the manner of 'Chinese whispers' and so where possible I obtained information from several sources.

Structured questioning also has a place in retrieving and assessing historical and statistical data on craft manufacture. Puri *et al.* (2004: 4) used structured interviews in their work with the Penan in Kalimantan to identify traditional ecological knowledge of basketry materials. Many of my plant and design motifs were identified and community histories collected, using structured interviews. These various data collection procedures were used together to gain a rounded understanding of technical issues, contexts and beliefs, with triangulation of the data to verify information.

No matter how involved participant observation and interactions are, it must be understood that they can only ever be subjective. Even more so, when one has very different life experiences and comes from a different historical and cultural position. It is only through continual communication, observation and participation that some of these differences can either be reduced or understood; though it will never be possible to gain an absolute knowledge of someone else's life experiences. As Barbara Bender said

“‘the world out there’ as understood, experienced, and engaged with through human consciousness and active involvement. Thus it is a subjective notion, and being subjective and open to many understandings it is volatile. The same place at the same moment will be experienced differently by different people... When, in addition, one considers the variable effects of historical and cultural peculiarity, the permutations on how people interact with place and landscape are almost unending.’ (2006: 303).

My learning through observation, informal questioning, oral history and social interaction increasingly became more effective participant observation as I became more intimately involved and assimilated into the community. As people were manufacturing objects they would show me what they were doing and explain why certain techniques were used or what the various patterning

meant. I was also taken to visit people making things I had not previously seen; sometimes they would bring items to me. I documented work, using photography, occasionally video, by making rough sketches and taking notes, whilst sitting with the manufacturers so that I could ask questions of them to consolidate my understanding.

I was taken on collecting trips for the raw materials used in the manufacture of items, during which, reasons for choices were explained to me. Once this teaching had been given, I was expected to begin collecting these materials for myself under supervision, allowing my teachers to assess whether I had fully understood everything I had been told, allowing me to put questions which rounded my knowledge. This way of learning falls under the apprenticeship model. 'Apprenticeship is nothing more than the logical extension of the participant-observer method long advocated by ethnographers. The rarity of its application has more to do with the paucity of technological ethnography than it does with any problems inherent in the method.'(Keller & Keller 1996: 3)

I know the value of hands-on learning in craftwork, having studied, worked and subsequently taught as a jeweller, silversmith and wood carver. Only when the basic techniques are learnt, understood and practiced does one become competent (the practice being by far the most time consuming aspect of this learning process).

As Crickmay comments 'organic knowledge,... can only be learned through practice within the appropriate context,' (2002: 40), it is the only way to achieve the skills necessary to manipulate materials and make things. This was the belief of the *Ulu* people who, on many occasions, said that until I could manufacture items for myself I would not understand them. I was encouraged to practice these techniques over and over in my spare time. Occasionally, someone would take something I had almost completed, with a small error in the weave, unnoticed by me, and undo the weave to force me to remake it,



over and over, if necessary, until I had managed 'right'.

As an apprentice, I started with the initial techniques taught to children, firstly the making of *ulat* (rings) and *lokok* (bracelets). 'The child is the original participant observer who pieces together and makes sense of the world through being a part of it' (Tilley 2006: 62). This type of early childhood learning has long been noted, James (1901a: 178/9) for example described Native American basketry learning: 'by and by, her little girl will begin to imitate her, and, understand her mother's direction, the flat bottom, then the curved sides, and finally the entire basket.' MacKenzie notes the same for the learning of *bilum* (string bag) looping 'Casually introduced in the course of everyday play and interaction, basic looping technology is absorbed steadily from the time a daughter first sits in her mother's lap and is able to observe her mother's hands constantly working.' (1991: 100).

From the production of *ulat* I moved into the manufacture of *ingen* (harvest baskets) and *bayut* (cassava washing baskets). These both consist of a straight forward 2/2 plaid weave, but use *mata* (single weaves) for turning the four corners, and, in the case of the *ingen*, eight extra strands are introduced into the sides as the weaving progresses. Thus, I was introduced to the procedures I needed to understand and master, building up what Wynn (1994) calls 'constellations'. 'During apprenticeship the novice learns sequences of tool use (often very many sequences) by repetition and rote memorization. These 'strings of beads' are organized by chaining one action to the next, using temporal or spatial contiguity to cue the next action in the sequence [see Design later]. The artisan builds long sequences by accretion, adding newly mastered actions (including muscle tensions, hand orientations etc.) onto previously memorised sequences... One must practice, often for years, repeating basic actions and sequences until they have been learned at a very primitive cognitive level.' (Wynn 1994: 147/8). As Keller and Keller explain 'Each constellation constitutes a supposition specifying means - material and

governing conceptual notions - for achieving a particular transformative step in production.' (1996: 91).

Not only was I learning the procedures as shown to a child, I was then practicing them until I internalized the tacit or embodied knowledge. In this way I was making sense of the material culture by 'being a part of it'.

When comparing experiential knowledge to verbal knowledge, or natural learning to formal learning, one gains a fuller appreciation of techniques by participating. Misunderstandings and knowledge gaps become obvious when you try to reproduce a technical process, allowing experienced manufacturers to demonstrate again. Such an apprenticeship gives opportunity and stimulus to ask pertinent questions, relating to manufacture, that would perhaps not occur to a researcher using observational and verbal techniques alone. It also moves the understanding to a less subjective level, addressing some of the issues of the post-modern critique.

This experiential learning of manufacturing and the insights, found in gaining a skill, cannot be fully expressed using the limited scope of the written word. This alone can only give a partial familiarity with the techniques and processes involved in the manufacture of objects (Lemmonier 1986: 151-153, Bloch 1991: 193, Sillitoe 1996 Brant Castellano 2000: 27). As Ingold comments:

'One of our experiments was to try making a completely unfamiliar and rather complicated knot, guided only by a manual which provided detailed verbal instructions and step by step diagrams. It turned out to be an immensely difficult and frustrating task. The problem we all experienced lay in converting each instruction, whether verbal or graphic, into an actual bodily movement... Our experiments seemed to lend strong empirical support for the view that the practices of knotting - which are, after all, among the most common and widely distributed in human societies - cannot be understood as the output of any kind of programme. They cannot, then, be learned by taking any such programme 'on board' as part of an acquired tradition, as if all you need to know to make knots could be handed down as a package of rules and representations, independently and in advance of their practical application.' (2000: 357/8).

This practical experiment proves a point that Sigaut had made some years earlier 'technographic descriptions tell us how people do things, or at least how people are seen to do things; but, with the exception of some of the simplest tasks, they do not enable us to do those same things ourselves.' (1993: 105).

In her discussion on transmission of knowledge, Crickmay points out that 'When apprenticeship is undertaken as part of field work, the anthropologist's experience of this process is inevitably, fore shortened.' (2002: 48) because, as she says, 'Knowledge of the head, knowing how, is not considered 'knowing' until it is transformed into experiential, lived knowledge.' (2002: 49). This can be partially overcome by living and working for long periods alongside the people whose techniques are being studied, but the important early learning and experiences can never be replaced. In multifaceted research, apprenticeship only provides information on a single aspect of an object's 'biography', in my case, focused on the manufacturing technology. Knowledge of use was gained using participant observation and formal and informal interviews.

To me, such books as *Artefacts* by Henry Hodges are a fascinating reference, as they give us a glimpse into comparative technology. The way in which people act upon materials, the skills with which they manipulate them and the knowledge required in manufacture. Yet *Artefacts* is described by Tilley (2007: 18) as 'sheer tedium'. He does not appear to be alone in this judgement. What then of the classic books by Cellini (goldsmithing and sculpting, 1500 - 1571), Cennini (painting, 1370 - 1440) and Theophrastus (painting, glass working and metalsmithing, 1070 - 1125). If such texts are so tedious would they still be in print today? The importance of such books is that they document techniques and knowledge that may otherwise be lost and give some cognitive insight into manufacture. What I believe Tilley finds tedious, is that *Artefacts* does not take the study further than an analysis of techniques.

One can make little use of written descriptions to manufacture things, unless you have first mastered the basics. You can then use the texts to replicate the manufacture of things. Perhaps another reason for Tilley's lack of interest in the Hodges book *Artefacts* is that he has no background in craft skills? When one has many sets of skills, one can select the most appropriate to produce something from a written description, perhaps with a certain amount of experimentation. The problems encountered reading descriptions based on tacit knowledge are the same as those found when writing about such knowledge. The knowing and understanding are in the making, rather than in the written word.

By becoming 'an apprentice myself' (after Puri *et al.* 2004: 4) learning the techniques of basketry and netting, spending many hours watching tool and bamboo container construction, (in conjunction with informal interviews), I gained a working knowledge of the technical processes involved in Orang Ulu manufacturing. From this I have been able to produce a 'grammar' (rules and relationships) of methods and production sequences, used in making many of their utility items. However, as the above discussion shows, the written word is not enough for full transmission of this information: 'Images are not easily externalized for public consumption. Nor is it a straightforward matter to translate imaged ideas into verbal renditions.' (Keller and Keller 1996: 157). Many of the techniques in my study are difficult to convey to a reader, using the written word alone.

### **Approaches to Material Culture Study and how they Relate to my Work:**

I look at multiple roles for the objects I study, how some move from the functional and mundane to the symbolic and decorative. Instead of assuming I understand such switches, I take the items and seek different contexts, where different ideas prevail. Sillitoe calls this 'ethnographic determinism': 'The aim throughout is to present the ethnography and associated quantitative data as evidence which supports possible answers to questions which their

investigation poses, and not start out with a preconceived theoretically informed hypothesis and collect evidence to try and support it.' (2003: 3). 'to take "things" encountered in the field as they present themselves, rather than immediately assuming that they signify, represent, or stand for something else. Adopting an approach that might be called "radically essentialist"' (Henare *et al.* 2007: 2). Taking this 'radical essentialist' view and not assuming they have another representation, reduces, but cannot eliminate, ethnocentric judgements: forcing observations to fit some anthropological theory, rather than using the latter, where appropriate, to further understanding.

People have looked at material culture using a variety of approaches, and although much of my work doesn't fit into the standard anthropological analyses, I outline here, those that have relevance to my work (although other approaches clearly exist).

- **Functionalism** is an old theory, formed of two schools; one following the traditions of Malinowski 'theory of culture has to start from organic needs' (2002 [1944]: 72) which looks at human needs and the building of social institutions to provide them i.e. labour, technology and function. The second school, following Radcliffe-Brown, 'structural functionalism', holds the belief that society is a system which relies on various relationships within the social structure to maintain it. (Richards 1939, Evans-Pritchard 1940, Firth 1951).

This thesis is divided into the subsistence processes needed to live in the *Ulu*: rice farming, gardening and animal husbandry, collecting and hunting in the forest, fishing, the home and travelling. I concentrate on the function and manufacture of the tools required to carry out these processes. How the basic needs of these communities are met with such utility objects and how they work in Orang Ulu social systems.

Tools are a part of our ontology as humans, however mundane, they are essential to our existence. There is not, of course, one system for 'daily life'. While all people need to find or produce food and cook it, collect water and protect themselves against the weather, they differ dramatically in how they go about these tasks. It is the particular technical solutions for these issues that I look at in this dissertation. This gives the work an 'objectification perspective'. As Tilley puts it, this is to 'do with what things are and what things do in the social world: the manner in which objects or material forms are embedded in the life worlds of individuals, groups, institutions or, more broadly culture and society.' (2006: 60).

Sigaut said that 'Any study of an artefact must... include three levels of analysis: the structure of the artefact, the way it works and its function.' (1994: 437). Although materials may differ, techniques and styles are similar across the world, but they do not necessarily function in the same way within society. It is this function which can tell us more about the object than is immediately apparent to the eye (see 'ComparativeBasketry' later). I look at how objects, which appear to be outwardly similar, have different uses within a single Orang Ulu group and also between the communities, giving a wider understanding of object function in the area.

- *Structuralism* is based on binary opposites, for example, cold and hot societies (Lévi-Strauss 1966), and also as reciprocity in giving gifts (Mauss 1967). It looks at how different aspects of life 'structures', come together (like building blocks) to form culture and how all these aspects must be viewed in relation to each other to gain a full understanding of the cultural system, otherwise they are seen out of context (Needham 1962, Leach 1976, Sahlins 1960).

The objects I look at, need to be seen in their cultural context, if they are to be fully understood as part of the cultural system. Structuralism puts them into

this context by showing the relationships that objects have to other parts of the social system, such as their roles in labour. Here, I look to see whether these utility objects can be organized in to classes by decoration, use and material.

Lemmonier commented that 'descriptions of techniques always remain isolated, without the least attempt to relate the manner by which people act on material to the way in which they behave in society.' (1986: 151). Objects obviously fit into a social system. Unfortunately, a study of form rather than function has historically been the way in which many objects have been studied. Taken from museum collections (MacKenzie 1991: 23) studied in isolation they have little meaning. In truth, they are part of labour, culture, history, technology, semiotics, which gives them identity.

- **Technology:** The method by which we solve problems in manufacturing things and the equipment we need for the purpose. Technology has many levels from the 'simplest' such as stone querns used for millenia for grinding grain, to the current developments in nanotechnology (Lemmonier 1986, Haudricourt 1987, Sillitoe 1988, Sigaut 1994, Ingold 2000 & 2007).

Technology is one of the main ways in which we meet our needs and is the basis for how we live our lives. Yet only rare studies are made into its role. It is one of the building blocks for life and its use can denote our belonging to one group or another as part of our 'identity'.

Technological production, at the handmade level found in the *Ulu*, is generally known as craft. Adamson describes it as 'a way of doing things, not a classification of objects, institutions, or people. It is also multiple: an amalgamation of interrelated core principles, which are put into relation with one another through the over arching idea of "craft"' (2007: 4).

I describe these 'core principles' for the technical processes making up an object,

showing how many of these processes can be found in the designs for multiple objects.

Is there a place for the technical? In my view there is, perhaps that is because I have a craft background. It certainly has yet to regain its position within studies of material culture. Without technology our needs wouldn't be met on any level.

Sometimes technology is seen in simplistic terms, not showing the importance it holds in human life. According to Ingold:

'hunters and gatherers... portrayed as people with the simplest of technologies, it would be closer to the mark to say that hunter-gatherers have no technology at all. That is to say, their lives are not bound, as is so often suggested, to the operational requirements of a predetermined "techno-environmental system". Rather, the success of their way of life depends upon their possession of acutely sensitive skills of perception and action.' (2000: 289).

My work with the Penan, traditionally hunter-gatherers, suggests otherwise. They have many tools and the technology needed to accomplish life tasks. All Penan carry *parang* (machete type knives) and smaller *pueh* (long handled knives) which they make, plus the stones necessary to whet them. They process sago, hunt with blow-pipes and spears, produce baskets in which to collect both food staples and jungle produce for sale and exchange, use baby carriers and mats to sleep on. While some of the objects they manufacture are transient, as they are produced and disposed of after use, they are part of a sophisticated technological assemblage.

Ingold's statement ignores the fact that all humans have technology. He goes on to say that 'hunting, for example, entails the practice of skill rather than the operation of a technology,' (*ibid*: 290) whereas both are needed to accomplish the killing of game. Producing a blow-pipe is no easily acquired task and some people do not have the technical expertise to do it. In some ways Penan require different technology to their neighbours, who farm using swidden methods,



but it is no less complex. It must be said that 'simple' technologies are anything but. The knowledge one needs for them is involved and often little understood. I look at where technology use differs adding to the available knowledge for the area.

- ***Tacit knowledge & its Transmission:*** Embodied or implicit, tacit knowledge is the understanding of processes which cannot be articulated, embodied within people at a subconscious level; as opposed to explicit knowledge which can be clearly expressed. Much of this study now takes place in management and information technology spheres, as methods for its recording are sought (Polyanyi 1967, Leonard and Sensiper 1998 & Hildreth & Kimble 2002).

Transmission - tacit knowledge has to be learnt, often in childhood through experience, rather than formal education methods. Participant observation, experimentation, apprenticeship and communities of learning, together with practice, form the basis of such transmission (Lave 1992, Sigaut 1993, Wenger 1998, Smith 2003).

Although I have already discussed this in relation to my research methods, tacit knowledge and its transmission play an integral part in technology and skill for the people in the *Ulu* and, as such, are a major focus in my research.

Ingold asks 'might we not learn more about material composition of the inhabited world by engaging quite directly with the stuff we want to understand: by sawing logs, building a wall, knapping a stone or rowing a boat? Could not such engagement - working practically *with* materials - offer a more powerful procedure of discovery than an abstract analysis *of* things already made' (2007: 3). This is the view point of this thesis: that we should inform our research with such 'discovery' into traditional technology by carrying out procedures for ourselves. In this way we can learn to understand

more intimately the tacit knowledge of the manufacturers. The problem then becomes how to transmit this knowledge to others. Here I challenge the current intellectualist approaches that dominate material culture studies as often inappropriate, as they are removed from the material element, overlooking vital information.

Much of the information relating to technology in anthropological studies is given to us second-hand by researchers who do not have the manufacturing skills themselves and are trying to piece together procedures from someone else's tacit knowledge. I try to bridge this gap by learning the techniques myself, writing from experience, and attempting to verbalize the tacit knowledge I have assimilated. I also, look at how the people of the *Ulu* pass on their tacit knowledge and to what extent they value tacit knowledge, tradition, technology and skill.

The master craftsman used to be held in high regard in the west. However, for many years, the learning of crafts has been seen as an unworthy pursuit compared to academic learning, and channelled towards those who were not judged clever enough for academia (Adamson 2007: 79). Since then education has moved further away from practical skills towards an obsession with the written word and an intellectual approach. Reading the theory of a craft process does not mean we are able to do it.

Historically, master craftsmen were first apprenticed to learn the processes, then became journeymen when they honed their skills, and after many years became a master in their field. This is still the case for some of the Germanic travelling craftsmen. Much knowledge of crafts has already been lost. One of my aims here is to prevent further erosion in what I see as an important field of study. It appears that now only a few countries really appreciate craft transmission and manufacture. In Japan some practitioners are exalted as 'Living National Treasures'.

- ***Comparative Technology:*** More than one method of manufacturing can be used for the production of an article i.e. ceramic bowls can be formed as thumb pots, by coil or slab methods, slip moulding or thrown on a wheel. Also, more than one type of technology can be employed to fulfil a need. For instance, fish can be caught using scoops, lines, nets, spears, poison etc. Research into comparative technologies can be used to compare such factors in single locales, across wider regions and across time. It can also define technological choice and artefact diversity (Hodges 1964, Arbiet 1985, MacKenzie 1991).

For most technologies, there are a finite number of manufacturing choices based on the materials available. Here, I look at the comparative technology of the Orang Ulu, to see why particular choices have been made in construction, to best suit the purpose of object. I tried to ascertain if one solution is viewed as preferable to another or if it is purely down to manufacturing knowledge, personal preference or material. I have put these technological choices into context, contributing to the wider field of comparative basketry techniques and utility manufacture.

- ***Environmental Issues*** study the mechanisms causing environmental change, such as climate; soil erosion; pollution; introduction and loss of species and agri-industry. Indigenous Environmental Knowledge studies the way in which local peoples understand and care for the world around them, and is a growing field of study. (Stockholm Environmental Institute - to date, Ellen, Parkes & Bicker 2000, Scott 2009).

Environmental issues effect the people living in the *Ulu* in a variety of ways. The main causes of environmental change in the past were the weather conditions El Niño and La Niña and forest fires caused by lightening and slash and burn farming methods, these still occur on a regular basis, but today many more factors are involved. Climate change, caused by the loss of tropical

rainforests effects everyone, but in this area it is more specific with the loss of vast forest areas: through hydro-schemes, logging (using clear felling techniques) and the planting of monoculture palm oil and rubber plantations. Logging creates problems with soil erosion. Monoculture plantations cause a loss of soil fertility. The introduction of alien plant species changes its pH. All pollute water systems, preventing the regrowth of traditional species.

Together, the factors above, mean the loss of traditional lands for the people living in the area. In many cases affecting the sustainability of their lifestyles, with habitat loss for the indigenous plants and animals on which they rely. Previously, many plants used as foodstuffs and raw materials were carefully managed and allowed to regenerate before being harvested again, this management is not always possible. Much of this traditional management knowledge is being gathered today in I.T.K. (Indigenous Technical Knowledge) studies.

Not all indigenous methods use the resources well; and some are destructive to the environment. Slash and burn farming, mentioned above, used across Sarawak, causes damage to the rainforest locally. However, when these fires get out of control, large areas of forest are lost and the smoke can affect the air quality as far away as Peninsular Malaysia. Such destruction by indigenous peoples can be seen across the world (i.e. deforestation in Rapanui).

A further problem in the area is waste disposal. In the past, all materials used by the Orang Ulu were organic and so degraded quickly but this does not happen with such things as glass, plastic, electronics and batteries all of which have been recently introduced.

Environmental issues impact on technology through loss of raw materials and by changing the needs of people. My work shows the consequences of this change and how the communities are attempting to overcome them in relation

to object manufacture: by looking at sustainability strategies and a move to new materials, giving rise to intermediate technologies.

- ***Intermediate / Appropriate Technology:*** Used as a development strategy, Schumacher described this as 'self-help technology', which is 'appropriate to the conditions' in which it will be used, 'simple enough to be used and maintained', 'provided largely from indigenous resources and employed largely to meet local needs' (1972: 76). (Schumacher 1972 & 1973, Browne 1983, Willoughby 1990, Schnaiberg 1997, Pearce 2006, Practical Action to date).

The Orang Ulu have, of course, been introduced to a range of foreign made goods, which they have adapted to produce new objects. But as Kopytoff (1986: 67) puts it 'what is significant about the adoption of alien objects - as of alien ideas - is not the fact that they are adopted, but the way they are culturally redefined and put to use.' I discuss this in reference to raw materials, regarding plastic now used in place of rattan (where the latter has become scarce). Finished goods such as plastic laundry baskets and colanders are now commonly being used as scoops for fishing. Objects are recycled into something new, for example nails are being made into tools. Where 'objects are not what they were made to be but what they have become' (Thomas 1991: 4). I also show how the introduction of local small scale electricity schemes from renewable sources is affecting production. Where new technologies are found they add to the available information on intermediate technologies for others.

- ***Evolution and diffusion:*** Historically rooted in Darwinism, evolutionists believe that all cultures have the ability to innovate. These innovations move forward in a unilineal manner, different societies progressing at different speeds, independent of influence from other cultures (Tylor 1865, Morgan 2000 [1877], Frazer 1922, White 1957). This old theory is making a comeback, using approaches and methods found in biology (Mesoudi,

Whiten & Laland 2006: 329; also Cavalli-Sforza & Feldman 1981, Tehrani & Collard 2002).

Diffusionism tracks the spread of cultural traits, object design and innovation as they move from one group to another. Some people believe in a single source for this spread while others believe in a number of sources. This can be broken down further into several diffusion methods (Haddon 1898, Boas 1911, Rivers 1914, Kroeber 1940).

Technology evolves new solutions to problems, with new needs and new materials coming into play, I look at the extent to which objects remain technically the same and how much they evolve as unilineal innovation. I anticipate cross cultural stimuli playing a large part in innovation, in the manner seen in craft contexts elsewhere. I also look at why some objects become extinct as different designs are seen to have a better fit for the function.

Contagious diffusion can be seen in the *serut* (small bag), which originally came from the Penan, spreading to other Orang Ulu, then by expansion diffusion, as it has recently moved as far as Hawaii. I question whether there are other objects which show this pattern clearly enough to prove that diffusion has a role in transmission, or if they follow patterns of cultural interaction and exchange mechanisms.

- **Consumerism:** From the study of consumption, consumerism looks predominantly at circulation, the values and processes of acquisition for items (see Miller 2006: 341 - 344). It deals with the reasons consumers make choices, for example through advertising and branding. Today much of its focus is on mass consumption. (Douglas & Isherwood 1979, Appadurai 1986, Miller 2002a & b).

Some functional objects are produced for exchange within local barter systems

and increasingly, as the means by which people are participating in monetary market exchange further afield (Appadurai 1986, Kopytoff 1986). They wish not only to earn money to acquire food in times of bad harvests, but also to be able to buy manufactured goods. I look at how such sales take place within communities and how these economic benefits are encouraging more people to learn the skills of production.

Consumption and commodity studies as such (e.g. Miller 2002a, 2002b, 2006) are peripheral to this study, focusing mainly on mass produced goods, such as designer brand clothing and electrical goods. Although large scale consumerism has not yet taken a hold in the *Ulu*. I look at how tourism has started to create a market for traditionally manufactured objects, producing new commodities; and how this is, in turn, changing the lifestyles of the makers towards one of consumerism. My work contributes to the knowledge of the commodification process in small scale societies.

- *Change Issues* have a long history in archaeology and anthropology, often occurring as new needs arise, with the introduction of new materials, or on changes in circumstance, such as marriage, contact with outside influences, discovery and invention (Hayden 1998, Skibo & Schiffer 2001, Schiffer 2001).

As can be seen, all of the above issues can drive, or be driven by change. I look at whether particular issues cause more change than others and how these changing needs and desires are met. I also question whether some issues are speeding up the rate of change.

An assumption that I query suggests that objects are always evolving or changing, as some are of optimum design for their functions. One example is the pestle and mortar used in the kitchen for spices and on the veranda for dehusking padi. The archaeological record shows little change to its design through history. Although husking machines are available, these are hardly

used because they require large quantities of padi, and processed padi is more susceptible to mould.

Other objects evidence change and adaptation to new needs (Pfaffenberg 1992: 494), with innovation in design as priorities change. Flower pots, based on traditional baskets have only been needed since it became fashionable for plants to be brought into the home (pl.9.46). As Wilk argued: 'for a more balanced approach that recognizes that needs and desires are an inextricable part of any productive system. Technological change always has a mirror in the processes that expand existing needs and/or promote new ones, "a technology of need"' (2001: 108).

Many Orang Ulu groups have been relocated by the government in the last 15 years to make way for the Bakun Dam project. This forced relocation has brought some of these groups into closer contact and introduced them to other groups who were previously known only at a distance. It has also brought them closer to the large town of Bintulu and the road system. This change in living conditions influences lifestyle; I look at how this has manifested itself through trading and access to outside materials.

- **Art & Design:** Art has often been seen to mean different things at different times and in different locations. Definitions of art are frequently debated, but all agree it is a visual expression, which can take many forms such as painting, sculpture and dance. It can stand alone as it is aesthetic, but can also be a part of something else. Art is defined as such by either the maker or the viewer; often different people will have their own interpretations of it. (Forge 1973, Layton 1991, Gell 1998, Clifford 2003, Morphy & Perkins 2006)

Design is how an object looks, based on shape, necessary parts, colour, decorative elements and how it fits its purpose. It differs from art in that it



doesn't stand alone and is not necessarily aesthetic. It is always a process for something else. (Rubinstein 1993, Kingery 2001, Küchler 2006)

The objects under discussion would not, in the main, be considered art under Morphy's criteria of 'having semantic and/or aesthetic properties that are used for presentational or representational purposes' (1994: 655), neither, do they in 'the best opinion' of Gell constitute 'A half-way house between "institutional" and "interpretive" theories' of art (1998: 36), even though some are decorated. Eli Bartra's definition of folk art explains it thus, 'Folk art, in general, relies on the use of traditional techniques and simple tools, and is always handmade. Rarely is folk art utilitarian. In that sense, it differs from handicrafts, which also comprise handmade objects but are produced to satisfy practical needs, exhibit less artistic quality, and tend to be extremely repetitive, both in terms of the products themselves and of the production process.' (2003: 2). Adamson says 'While art is a matter of nomination - that is, art is anything that is called art - craft involves self-imposed limits' (2007: 4). Makers in the *Ulu* do not think of the objects under discussion as 'art' but as 'utility', their category of art encompassing a different range of non-utility items.

Design is the process by which makers bring together all the disparate parts of an object, prior to manufacture, 'conceiving and visualizing an artifact, of forming a plan, of contriving an arrangement of parts in a device, a process or system is at the core of technological change' (Kingery 2001: 123). Makers often want their objects to be aesthetically pleasing as well as functional and so decorative elements are planned-in as a part of this design process. 'The idea comes first and becomes realized in the form of a material thing.' (Tilley 2006: 60). Design, at the level of object functionality, is often passed over, almost as something we already understand, but this is generally not so for an outsider without technical skills. It is only in manufacture that design requirements are fully understood, problems solved and progressive new design elements invented. It is a learned cognitive process that merits study.

There is not only one design solution to any problem, and many variables to consider, including materials, locality and preference. Experimentation in design contributes to evolution, assimilation and hybridization of objects, playing a large part in technology, as this dissertation shows.

In Art and Design Studies we are taught to look at the spaces found in between objects or planes and it is often these we draw initially rather than the objects themselves to render the design or image. Susanne Küchler (1999a, b, 2003, 2006) looks at voids in her work describing the spatial planes of the knotwork found in the *malanggan*, 'figural images invested with the divine powers of the god *moroa*.' (2003: 217), specifically the void where the knot has been removed during carving, the 'hollowed spaces... it is here in what is rendered absent through incising that we find a surprising clue of what may count as a description of what a *malanggan* is.' (2003: 218). Many craft workers see design spatially, rather than mathematically and often this is how their work progresses. For baskets and boxes, it is the contained void which is the central design feature of the object, the outer layer of materiality serves to produce this space. Not the object but the space encompassed by it, giving us what Küchler describes as an 'organic sense of spatial cognition' (1999b: 3).

- **Symbolism:** Relating to Structuralism, symbolism is formed of 'signifiers' found within aspects of culture. In religious art St Catherine is symbolized by a wheel; whereas certain clothes will identify a peer group. They are things that can be read by those who have the cultural knowledge (Barthes 1967, Layton 1991 & 2006, Robb 1998).

Some of the objects considered here symbolize nothing more than their function, but others, those with decoration, can have other meanings. I look at the decoration found on objects to see what, if anything, it means. The act of not decorating an object can also be symbolic as it can point to its status.

Just because typically functional objects in the *Ulu* do not have extended meanings attached, we may not assume this is so for all. Amulets are worn to ward off evil and sickness, other artefacts are carved for use in the Bungan cult and some utility items occur in symbolic contexts, the questions I address are which and why.

- ***Gender & Labour Issues:*** Gender studies look at roles in a wide variety of contexts. How each sex is perceived within society and how they relate to each other. They also study the way in which women are represented within the anthropological record (Mead 1935, Ortner 1974, Rosaldo & Lamphere 1974, Moore 1988, Sanday 1990, Bretell & Sargent 1993, Bartra 2003). Here, my specific focus is on the gender of labour.

Labour is the work involved in carrying out any given task, such as technical and agricultural production (Marx 1965, Wallman 1979, Ortiz 1994, Jackson 1999).

According to Lissant Bolton 'Until the early 1990's, *kastom* in Vanuatu had, for all practical purposes, been treated as referring only to things that men do and know, to men's dances, stories, rituals and preoccupation's.' (2003: XIII). MacKenzie makes a similar point that anthropology generally 'has for too long been male-dominated, focusing almost entirely on what men do and say' (1991: 21) constricting information on women's roles in the historical record. This corresponds to views put forward by several female anthropologists (Rosaldo 1974: 19, Weiner 1979: 328, 1980: 389, Leacock 1981: 199, Strathern 1981: 669). Although a sea change took place in the early twentieth century with women entering the field of anthropology (i.e. Benedict, Mead, Richards, Mair) the subject was still seen to have a male bias. Further attempts to address this have been made in gender studies with women anthropologists studying women's issues, such as Maria Lepowsky's work in Vanatinai (1990). This work has been

very necessary, as we now have a more holistic view of how societies function, with relation to both sexes. I think it is important to keep this balance by looking at the roles of both genders and their interactions.

Both men and women use technology to manufacture items that meet their basic needs. In my work it would be inappropriate to focus exclusively on one sex when both take part in craft production. Potentially, aspects of manufacture or use could be missed, without looking across the gender divide. Manufacturing processes are often broken down into stages, with different people carrying them out as a collaborative effort. I look to see if this is the case with Orang Ulu production and if this breakdown is gender-related. MacKenzie (1991: 114) for example, found that men often decorate *bilum* (string bags) produced by women. From this, I explore tasks to see if some are prohibited to one sex or the other. I also consider if differing values are placed on different types of production because of gender in regard to maker, technique and material. I also look at egalitarian issues, what choices there are and why people make them.

Manufacturing tasks are forms of labour, but by also looking at how objects are used, I record how else they play a part in labour systems. Several of the Orang Ulu groups traditionally feature class systems. This thesis investigates if gender or class or other social distinctions impact on manufacturing or labour arrangements, and whether labour follows the same patterns among hunter-gatherers and farmers. I consider whether other prohibitions placed on the roles of people may also feature. Men manufacturing basketry in the Venezuelan Amazon, viewed the work as totally secular (Henley & Mattéi-Muller 1978, see Comparative Basketry). In Hindu India certain tasks are designated to people of a particular religious class, or even a religion. Another distinction is by kinship, with certain tasks being the prerequisite of particular families and passed on generationally. This thesis explores such prohibitions in the *Ulu*.

I take into account how varying skills in production influences the labour process. Whether specialization occurs, and if so, the causes of this (Dow 1985, Peregrine 1991, Childs 1998, Ingold 2001), and if those with less skill continue to manufacture or if they are allotted other tasks within the labour system.

- **Biography:** These show interactions between objects and people. One type of biography looks at objects, primarily from museum collections, attempting to put them into context using written sources, history and analysis. It can provide such information as ownership, history, provenance and production dates; expanding existing knowledge bases (Greene 1991, Gosden & Marshall 1999, Röschenhaler 1999, Alberti 2005, Caple 2006). The other type of biography follows an object's story, its life history, through fieldwork. This can be from its conception, or as it takes on roles in society such as exchange, personal and ownership history, or commodification; giving it an identity within a cultural system. (Appadurai 1986, Kopytoff 1986, MacKenzie 1991, Stanley 1994, Hoskins 1998, Thomas 1999, also life histories Skibo & Schiffer 2001). Frequently these two types of biography are found in combination.

Many of the objects studied here belong to the type of assemblage represented by wooden spoons and washing up bowls in western thought. Classified according to their function; most homes have them, but they are not on display. The wooden spoon is probably on the list for setting up home, but not on the wedding gift list. It may be the same spoon there when the home is eventually broken up, although it will have become worn, stained and scorched. It is only replaced when it is no longer suitable for its task, thrown away without a second thought when no longer useful. There are many items of this sort that make our lives easier, they are not particularly decorative, and have little to 'say'.

As I concentrate on the technical and a range of objects of utilitarian function, many of the 'biographies' are foreshortened. In-depth 'biographies' of the type used by Janet Hoskins (1998) are uncommon as they are not, generally the intensely personal objects, such as the betel bag that informs one of her narratives. Most of these objects are produced for use and it is this use-value (after Marx) which is significant. Their 'stories' are those of manufacture, use, wear, storage, disposal. Nonetheless, they are important in the lives of their owners, after all, a seed bag holds within it the coming years fertility.

Although biographies are often simple, some objects have more extensive histories as they become commodities, change use, or become intimately linked to the maker's and/or owner's life. Objects do not necessarily have meaning in themselves but can evoke meanings in their owners. Examples are the *kope* (bag) manufactured by a woman in which to keep her gold teeth, demonstrating her wealth; or a *serut* (basket) another woman made to carry her belongings to hospital when she gave birth to her son, holding memories of that time. Such personal meanings can be held very deeply.

As some Orang Ulu groups were previously hierarchical, I look at whether social standing influences biography-giving objects with the same purpose, giving different meanings depending on who owns or makes them, is it shown symbolically and is such practice still prevalent?

As can be seen, there are number of questions that can be posed about an object's 'biography' (Kopytoff 1986, Appadurai 1986, MacKenzie 1991, Stanley 1994, Hoskins 1998, Thomas 1999). Many of these questions are answered by the issues considered above. These are only some of the questions that can be asked about an object, if we are to gain an understanding of its place within society, furthering the knowledge of peoples' material culture. I inform the study of biographical objects with those items generally overlooked.

- **Identity Issues:** These are the ways in which we see ourselves and our associations with others. How we identify with our surroundings and peer groups, in social contexts. They are often susceptible to change, depending on particular situations. Identity can be shown by set, tangible markers, by which we judge ourselves and others. (Erikson 1980, Harrison 1999, Sökefeld 1999, Brubaker & Cooper 2000, Woodward 2004, Berreby 2005)

According to Svensson (2008: 124) referring to the Sami and the Hopi 'Markers of identity, that is, objects representative of a specific culture, are recognisable from their design - modelling in the case of pottery or weaving and shaping techniques in the case of basketry.' Although generally so, especially in regions of homogeneous culture; in areas with many small ethnic groups, such as the *Ulu*, a few objects will belong to the area as a whole rather than to a particular culture (although a single group or even person will have been the originator). Today, borrowing often happens on a regional or wider scale, while some objects remain associated with a single community.

As some objects will have the same morphology the world over - the same solution found for a problem, objects alone can not stand for identity in isolation. Examples of this are fish traps and blow pipes, although aspects such as size or the materials do change depending on place. For example, the Orang Ulu of Borneo use *besai* wood for blow pipes whereas the Orang Asli of West Malaysia use bamboo; although both materials are available to the two groups and the structure, design concept and use remain the same. Therefore, objects have to be seen in relation to other aspects such as their use before they can truly become a marker. 'things are the very medium through which we make and know ourselves.' (Tilley 2006: 61).

'The human being as a person is a complex of social relationships. He is a citizen of England, a husband and a father, a bricklayer, a member of a particular Methodist congregation, a voter in a certain constituency, a member of a trade

union, an adherent of the Labour Party, and so on.' (Radcliffe-Brown 1952: 194). Radcliffe-Brown's example shows just how many elements can be combined to make up a person's identity, or how many identities one person can have. This complexity of elements is also needed to make up group identities. The above issues, when combined, serve to make up a part of the identity of the small ethnic groups in the *Ulu*, adding to the available knowledge of these different peoples and their lifestyles. However, I question to what extent, we can characterize identity entirely through objects. Certainly group identity is very subjective, as everyone will have different ideas as to what makes it.

Using all the above theories and issues together, gives my work context and builds up a view of the objects and the roles they play within Orang Ulu societies on a variety of levels.

### **The History of Material Culture & Basketry in Anthropology**

Little remains of objects made from plant material in the early historical record, because of the readiness with which they degrade. Evidence of basketry is only found in a few types of burial environment, specifically those which are anaerobic, frozen or particularly arid, such as peat bogs, glaciers or deserts; or, as impressions seen in metal corrosion or certain clay layers. The sparse archaeological evidence, puts the emphasis on the knowledge we have, from recent history and extant society, to further our understanding of this aspect of material culture in the past.

In South-East Asia, as in other tropical regions, with humidity in excess of 70%, moulds and bacteria grow rapidly, deteriorating organic materials quickly. Further, organics are susceptible to attack by insects and rodents, again causing weaknesses. Where collecting objects from such an environment has occurred, serious drying effects cause warping, cracking and embrittlement to the fabric. Some evidence can be found in literature, and as art, such as the cave paintings depicting boats found in Niah, Sarawak. Many South-East Asian peoples did not



leave written records, and most of their art works were produced on organic materials and so have not survived either. Therefore, much of the history, where it is known, is found in the oral traditions of the people.

In the eighteenth century sailors on expeditions collected items which formed the core of many curiosity cabinets. By the nineteenth century explorer-scientists were collecting objects on an almost mass scale. These were classified and studied within developing museums: 'objects were intimately connected with notions of progress - historically, technically and socially' (Buchli 2002: 4) according to the theory of evolution prominent at the time.

Interest in material culture diminished with the advent of fieldwork at the beginning of the twentieth century with researchers focusing on the study of social relations (Tilley 2006: 2); using participant observation (Malinowski 1922) over extended periods of time. During this period, studies of basketry, as they relate to technology and usage are few. Early twentieth century works that date from this era include Peter Buck (Te Rangi Hiroa 1923, 1924, 1926 etc.) whose rich empirical record lacked a theoretical basis. Brigham (1906, 1911) who looked at technology in the Pacific from a museum based perspective. Jasper and Pirngadie (1912) who documented basketry in Indonesia as the first volume of their study on the various crafts manufactured across the island chain. Klausen's study from the diaries of Lumholtz' expedition in Kalimantan (1957) looks at the symbolism of the designs; James (1901 a & b) who studied the basketry of the First People of North America, in the field. Otis Mason (1901) also initially studied basketry in North America before moving on to write his *Vocabulary of Malaysian Basketwork: A Study in the W.L. Abbott Collections* (1908), focusing on technical terminology in relation to this museum collection. Much museum ethnography was based around description and typology. Those working in museums such as Klausen, Brigham and Mason lack the fullness of works informed by field research, this shows a deeper understanding of objects (as they are given contexts of use within the social

structure), encouraging the move away from museum-based material culture study. 'How societies functioned as social systems was more significant than how they could be placed within a schema of unilinear evolution based on material traits: the kinship diagram prevailed over the material culture "fossil"' (Buchli 2002: 7), this sociological focus came to dominate anthropology for much of the twentieth century.

As material culture is an interdisciplinary field, its study remained central to archaeology. It struggled to find a theory to inform the study of objects, as in David Clarke's *Analytical Archaeology* (1978). He said 'It is time for archaeology to move from the status of an intuitively acquired craft towards that of an explicit discipline' (1978:149).

During the 1980's there was another shift in the focus of anthropology with Pfaffenberger (1988), Sillitoe (1988), along with French anthropologists such as Lemonnier (1986), Sigaut (1985 & 1994) and Haudricourt (1987) leading the way back towards a study of technology and material culture in anthropology, with works by such people as Arbeit (1990) in Polynesia, and Nicolaisen and Damgård-Sørensen (1991) in Sarawak. In the UK much of this renewed interest was initially formulated within a structuralist framework. This renewed interest resulted in such new periodicals as *Technique et Culture*; *The Journal of Material Culture*; *Technology and Culture*, and the Material World blog. Since then, the field has largely moved away from technology and the objects themselves, leaving a gap in the subject.

More recently, smaller investigations have been carried out within development contexts where the understanding of Indigenous Knowledge (I.K.) and Indigenous Technical Knowledge (I.T.K.) increasingly inform interventions (Sillitoe 2002: 2). 'Indigenous knowledges are unique to given cultures, localities, and societies... They are forms of knowledge that reflect the capabilities, priorities, and value systems of local peoples and communities.'

(Sefa Dei and Rosenberg 2000: 19). I found that where several ethnic groups live within a single locale, such as the *Ulu*, they share much of their knowledge. Furthermore, indigenous knowledge (I.K.) 'is the consequence of practical engagement in everyday life and is constantly reinforced by experience, trial and error and deliberate experiment.' (Ellen & Harris 2000: 4). Elsewhere material culture studies have featured in such ethnobotanical research as that carried out in the Philippines by Dario Novellio, the Penan Benalui in Kalimantan by Raj Puri, the Dusun in Sabah by Rachel Chua and the Iban and Kelabit in Sarawak by Hanne Christensen.

Little of this research puts basketry in full cultural context, treating the basket as central and giving it its 'social life' (Appadurai 1986). More rounded studies placing utility objects fully within socio-technical and cultural contexts such as *Made in Niugini* (Sillitoe 1988) and *Androgynous Objects* (MacKenzie 1991) are still rare. These two books, although both focusing on Papua New Guinea take different approaches: Maureen MacKenzie concentrates on a single object, the string bag, with multiple uses among the Telefol speakers of the Mountain Ok region, whereas, Paul Sillitoe deals with 'all of the moveable property manufactured' by the Wola (1988: 1).

### **Implications**

Material culture forms a large part of what makes up society. We risk losing valuable data without the type of detailed recording and extensive fieldwork discussed above. This must be done while it is still possible to look at extant objects in context and belonging to pre-industrial groups. When these objects can no longer be found in situ, we may be forced to return to studying them solely in museum collections; where provenance and context have often been lost, through a lack of thorough documentation. This would place us back in a position from which anthropology tried to escape a century ago. Material culture in anthropology would be left without the possibility of proven models in this area. The veracity of theories could only be surmised: a problem

archaeologists understand and are still trying to overcome (much contextual evidence and oral information not being available). Until more of this type of research occurs, technology and material culture will continue down a path of intellectual theorizing on tangential issues. Miller (2002a: 237) said that material culture 'provides a means to consider and move into niches of academic enquiry that were being neglected by other branches of anthropology'. This is true, but should not be at the expense of studies into the objects themselves, which can form a base line for enquiries into such branch issues.

### **Comparative Basketry Technologies**

Basketry and allied objects are found in all regions of the world, made in a variety of forms and from a large range of plant materials. For example, the *kisa* (baskets) belonging to the Sámi of the Northern Scandinavian Arctic are produced using a wrapping technique from birch roots and are oval in shape with a domed lid, whereas, many oval baskets made in temperate Ireland by the same methods are manufactured from a combination of straw and bramble stem bark. Fish traps are found, made in much the same way, in the Severn Estuary and the Wash, in the U.K. and in Madagascar, the Amazon basin and across Asia.

The sizes of baskets can vary dramatically, from small items in which to keep precious personal possessions to those large enough to transport large animals. (In China I have seen large, live pigs being transported to market on a bus roof, contained in bamboo hexagonal weave baskets.)

Flat woven objects also vary in size, from coasters on which to place mugs, to walls and flooring within houses. 'In Vanuatu, as elsewhere in the Pacific, pandanus mats are produced by women for everyday use as well as ritual gifts. They cover the floors of home and church, are unrolled for sleeping, and are stored in hidden nooks as wealth to be displayed and passed on to others when the time comes. Fans and fabric too are plaited from pandanus... Traditionally,

sails were plaited of pandanus, though it is at least five decades since this art was practiced' (Keller 1988: 4). The people of Vanuatu are not alone in their use of plant materials in such diverse ways, rice stores in Borneo often have woven walls, along with homes across the world, including Europe where wattle and daub walling techniques were once widespread.

The materials used to make basketry can vary greatly. The first peoples of British Columbia for instance, include Indian Hemp, Silverberry bark (Turner 1998: 32) Red Cedar (*ibid*: 78) and Cattail (*ibid*: 122) in their manufacturing. Most of the materials used to produce objects in Borneo occur in other South-East Asian countries. Some materials grow across a large region, bamboo for example, is utilized in manufacture, not only in South-East Asia but also East Asia and the Indian subcontinent. Rattan grows across South, South-East Asia and Africa. In the Amazon region, a variety of palms are used for the manufacture of basketry (Balik 1988) as rattan palms are 'concentrated solely in the Old World tropics, there are no true rattans in the new world, although climbing representatives of two other palms are known in Central and South America. Similarly there are no rattans in Madagascar' (Dransfield, 2001/2: 3). Pandanus is used for mats, baskets and bags in South America and across the Pacific, woven using a plaid weave. In New Zealand the Maori produce *kete whakairo* (bags) and *whariki* (floor mats) from flax (*Phormium spp.*), woven using the same plaid method and many of the banded weave patterns found in Borneo. The word *whakairo* meaning to ornament with a pattern (Evans & Ngarimu 2005).

Across the tropics there are further similarities in the manufacture of various objects. The Phi Tong Luang, a hunter gatherer population from Northern Thailand, utilize large bamboo tubes as cooking containers and to carry water, while small ones with lids are used as containers for salt and spices; they also produce wooden mortars with bamboo pestles and large rattan mats, 'Rattan baskets are made for exchange with other tribes' (Pookajorn 1985: 212). Many

swidden farmers, for example in the Philippines, produce large harvest baskets (Rossbach 1973: 126/7), similar in construction to those of the Orang Ulu. The use of plaid weaves can be seen from India (*ibid*: 125) to Japan, the Americas, Africa and Madagascar (*ibid*: 125).

Many people incorporate secondary bases and feet into their baskets - photographic examples of many of these can be found in Bryan Sentance's book *Basketry* (2001: 84/5/8 & 93). Within the Orang Ulu communities, these bases vary, which is described later in rice harvesting baskets.

In North America, most baskets are of coiled construction, a technique rarely used by the Orang Ulu. But those of the Chitamacha of Louisiana are patterned plaid or twill and according to Lamb (1972: 126) they spread this technique to the Creek, Choctaw and Cherokee (Jackson 2000: 48 - 51). Further south in Central America, specifically Guatemala and El Salvador, people use similar preparation methods to those of the Orang Ulu for bamboo and *bemban* (*Donax arunda*) by dividing and slitting rush stems to provide a strip of weaving material (Fig.3.4). Methods of dyeing are the same, 'pieces to be coloured are gathered into round bundles or circlets and firmly tied together.' (Osborne 1965: 184). They boil the bundles with leaves for colour and when mud is added, black is produced. Sentance also writes of mud and bark being used as a dye on pandanus by the *Chocó* people from the Darien area of Panama (2001: 43). According to Osbourne 'The weaving, done with the bare hands, is started at the corner of the new mat. The strands are woven over and under diagonally, according to the pattern desired.' (1965: 185) this, using the same construction as some drying mats manufactured by the Orang Ulu (Fig.6.26).

The similarities between basketry from Amazonia and North-Eastern Sarawak are marked. Although there is no rattan in the Americas, other plant species are utilized in the same manner, such as baskets with hexagonal weave for carrying

heavy loads, and a large rucksack type backpack (Pl.8.12 & 13) produced on a frame used by the Yekuana, and Kamarakoto, of Venezuela (Rossbach 1973: 78), and the Marcusi of Guyana (Sentance 2001: 129) among others. Guss describes this basket: 'the *tudi*, the men's carrying basket, an open-backed rectangular basket carried by a bark strap around the shoulders. Manufactured with either a tight plait or open lattice-work weave, the *tudi* is used to transport everything from game and fish to personal effects and provisions.' (1989: 73), it is almost identical in design to the Kejaman Lasah *baletkan*.

The *waja tingkuihato*, made by the men of the Yekuana of Venezuela, are trays used in the processing of yuca in conjunction with a sieve, and have much the same make-up as Orang Ulu *daya* (trays pl.9.2) and *eleng* (sieve). Guss says of their production:

'the *waja tingkuihato* are plaited in a variety of simple patterns, the most common of which is the concentric square design known as *fahadifedi* or "armadillo face". Once the body of this basket has been completed, it is set inside two interlocking hoops prepared from the branches of a tree... the slightly smaller *manade* basket [is] Woven and finished with the same materials and patterns, the plaiting in this basket is not closed but rather is left with small openings between the strips. it is through these gaps that the pressed yuca is forced,' (1989: 72).

Smaller trays are used as plates, made in the same way. The Yekuana, like the Orang Ulu, also dye only half the length of their weave strands, allowing more complicated patterns to be built up (Guss 1989: 76/7).

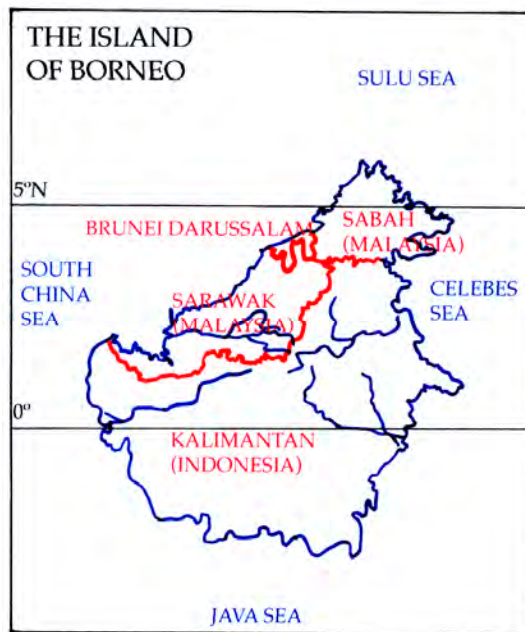
This type of tray was introduced to the neighbouring Panare people, also in Venezuela, by missionaries in 1964, and called by them *guapo*. Again, like the Orang Ulu, 'Basketmaking amongst the Panare is an almost entirely secular activity, whether the basket be for sale or for domestic use only... The role of basketmaker brings no special privileges' (Henley & Mattéi-Muller 1978: 46), but unlike in the Ulu only men do it. They are also similar in the way they view many basketry patterns. 'Amongst the Panare there is very little uniformity in the interpretations given to *guapa* motifs. There are certain complex figures that have universally accepted meanings. But a meaning is only universal when

there is a very obvious visual clue in the figure such as the apparently “curly” tail of the Monkey figure. When there is no clue, the meaning attributed to complex figures is highly variable... The meanings attributed to the less complex and secondary figures of their guapowork are even less systematic. Most simple motifs have no meaning whatsoever.’ (Henley & Mattéi-Muller 1978: 93); and according to Hames and Hames among the Yekuana ‘The *waha* can ... be made in variety of designs according to the whim and artistic ability of the basket-maker who invents and names the designs according to what they mean to him’ (1976: 18). The Yeuana and Panare also produce deeper patterned baskets with square bases and circular mouths, boxes and purses similar to the Orang Ulu.



## AN INTRODUCTION TO THE REGION

### BORNEO



Borneo, third largest island in the world, is one of many making up the Malay Archipelago. Lying between latitude 7°4'N and 4°10'S, longitudes 108°50' and 119°20'E, it covers an area of 285,000 square miles. To the west lies the South China Sea; to the north-east, the Sulu Sea; to the east, the Celebes Sea; and to the south, the Java Sea.

Fig.1.1. Map of Borneo.

Politically, now, the island consists of: the Sultanate, Brunei Darussalam; the Indonesian state of Kalimantan (formerly a part of the Dutch East Indies, thus Dutch Borneo) covering the largest area on the island; the two Malaysian States of Sabah (formerly British North Borneo), and Sarawak. Together, the two latter states make up East Malaysia.

### SARAWAK

The state of Sarawak sits between latitudes 0°5' and 5° N and longitudes 109°36' and 115°40'E, covering an area of 48,049.96 square miles, making it the largest Malaysian state and second largest state within Borneo. Sarawak has a coastline 500 miles in length, bordering the South China Sea.

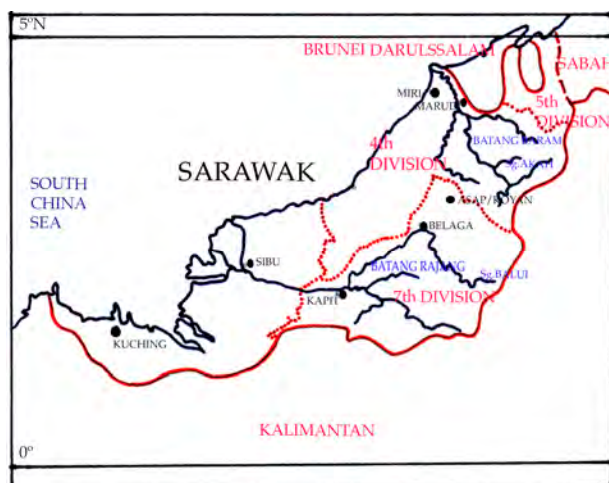


Fig.1..2. Map of Sarawak.

The state is divided into eleven administrative divisions. The Divisions I visited

for this paper are the 7th (Kapit), 4th (Miri), and 5th (Limbang), situated in the central/northern area of Sarawak, covering an area of 33071.13 square miles.

### **Topography:**

‘Sarawak is made up of two geologically distinct areas, approximately divided by the Lupar river. West Sarawak forms part of the ancient Sunda Shield, covered in many places with rocks mostly older than about 80 million years (Cretaceous and older). Central and north Sarawak are dominated by rocks younger than about 80 million years (Late Cretaceous and Tertiary).’ (Hazebroek & Abang Kashim 2001:19). The land is also divided into three types of terrain, along the coastline is the alluvial plain, behind which is a central belt of lowland rainforest, and then the mountainous interior (Sarawak online 2004).

Here, I am predominantly working with people living in the mountainous interior of central and northern Sarawak, most living above 180 m, but also with those living on the Bario Plateau, above 900 m.

The land comprises high mountains ie. Bukit Murud Kecil - 1620 m and Bukit Merigong 1465m, in the Akah / Baram region, Batu Lawi - 2043 m and Mount Murud - 2423 m on the edge of the Bario Plateau and Gunung Mulu - 2376m. These mountains are made up of very sharp ridges and deep river valleys like the Merigong gorge on the Sungai Akah which:

‘is typical for much of central and northern Sarawak (and) results from weathering of relatively soft sediments alternating with harder beds. Most of Sarawak north of the Lupar river is underlain by a huge crescent-shaped belt of deep water sediments collectively making up the Rajang Group (which includes the Belaga Formation of Sarawak together with Crocker Formation of Sabah)’. (Hazebroek & Abang Kashim 2001:23).

Other mountain ranges are also present, such as the Dulit and Tama Abu ranges. Pockets of limestone can be seen in areas such as the Mulu region.

These mountain ranges form the catchment areas for both the Batang Baram and Batang Rajang rivers and their tributaries such as the Akah, Tutuh, Tinjar and Belaga.

The Orang Ulu that live outside this mountainous relief include some of the Berawan, who are situated on the flood plain of the Tinjar River around Loagan Bunut. This is a fresh water lake fed by both the Tinjar and Baram rivers. At periods, usually February and May/June the lake dries out, leaving the cracked mud of the lake bottom. Loagan Bunut is the only natural lake found in Sarawak, the people here have adapted differently to life compared to those who live at higher altitudes.

The other Orang Ulu group which has a large proportion of its population living outside the mountains is the Lun Bawang. Many of whom can be found living in and around Lawas town. This is a lowland alluvial coastal area containing mangrove. Many of the Lun Bawang still live in the mountains further south at such villages as Long Semadoh and Ba Kalalan. Lawas Town itself is ringed by high hills and mountains.

This topography dictates the types of plants able to grow in an area and therefore the plants which are used.

### **Climate:**

The climate of Sarawak is equatorial. Using data from the Malaysian Meteorological service,<sup>1</sup> - Bintulu's average number of rainy days per month varies between 15 and 24, with a lowest average monthly rainfall in May at 229.8 mm and the highest average is 444.2 mm in December. The highest recorded rainfall being 1280.9 mm one January. In Miri the average number of rainy days per month is between 13 and 21. The lowest average monthly

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<sup>1</sup> Information pertaining specifically to the highland areas was not available.

rainfall is in April with 171.0 mm and the highest average is in December at 337.4 mm, again the highest recorded was in a January at 1734.6 mm. Rainfall is therefore, high all year, but there are two obvious monsoon seasons seen within these results. This is most obvious with the results from Bintulu, where December/January (north-east monsoon), and May/June/July (south-west monsoon) can be seen to be wetter. (With the exception of some Lun Bawang, all of the peoples within this paper living far inland do not experience the coastal variants that can be found in Miri and Bintulu).

Temperatures from Bintulu vary between a monthly daily average of 31.6°C in May at the hottest and 23.3°C in November/December/January/February at the coldest. The highest recorded temperature being 36.0°C one April and the lowest one January at 19.2°C. Relative Humidity is found to be between a high of 87.8% in January and a low of 84.6% in July. Results for highland areas are not available, but tend to follow the Bintulu pattern. Exceptions to this pattern do occur in the years of El Niño and La Niña.

### **Flora and fauna:**

With the exception of areas around Lawas town (a mixture of farmland/secondary forest, peatswamp forest, mangrove forest and mixed dipterocarp forest) and Loagan Bunut (peatswamp forest and mixed dipterocarp forest) all the areas here are of mixed dipterocarp forest, having a high dense leaf canopy (Hazebroek & Abang Kashim 2001:36/7) and Montane Forest at higher altitudes. The dipterocarp forest is frequently cut, both because of shifting cultivation and because of the high level of logging carried out across the whole area (not including the National Parks). 106 species of rattan have been recorded in Sarawak (Dransfield 1992:1), along with other palms and a great variety of bamboo species. Many of these are used in the construction of utility objects.

These forests show immense biodiversity, with more than 8,000 plant species

and 20,000 animal species of which the majority are found to be insects (Sarawak Online 2004). Mammalian species include the highly protected Borneo Rhinoceros, the Sun Bear, the Clouded Leopard and Marbled Cat. Bird species include eight types of Hornbill and the Bulwer and Argus Pheasants. Previously these were highly prized for fur, feathers, claws, teeth and casques, which were used as decorative elements for the body or on articles such as hats and baby carriers.

### **Internal Transportation:**

There is a major road joining all the main cities in Sarawak, but for the most part, it is only single carriageway, upgrading is currently underway in some places. Roads outside of this are very basic, especially the further north-east one travels. Where government roads do exist a huge volume of logging vehicles are using them, creating problems with the road surface due to their weight. In the highlands all the roads are made by the logging companies or palm oil estates, these roads are basic but cover vast areas of Sarawak, giving access to the interior. In some areas permission to use these roads has to be obtained, as they are not designed for public access and can be unsafe. It is also necessary for the driver to be experienced in this type of driving and to know the routes. Where logging no longer occurs these roads fall into disuse and eventually become impassable.

Rural flights, using Twin Otters, are available in some areas, but these are dominated by the weather as visibility is necessary for any approach and landing at a rural airstrip, especially in the highlands. Seats can often be at a premium due to their scarcity (19 per craft), especially around festival times such as Gawai Dayak, Christmas and various local *Pesta* (festivals) and there is only a 10 kg baggage allowance, cutting down the amount of saleable items anyone can bring to the towns. Some cargo planes can use these airstrips, along with the flying medical services but the price of hiring a cargo plane is

prohibitive for almost all. Airstrips are only found in fairly large villages or where they can serve several close, small, settlements. Some of the villages have helipads for use in medical emergencies.

Traditionally, the rivers were used for access into the interior and to a large extent this is still the case for many communities. River travel can be fraught with danger caused by such problems as rapids and flooding. When the rivers are low, access can be curtailed along certain reaches of the river. Where a boat cannot be floated it may be necessary to carry the boat for a large distance until it is possible for it to be relaunched. In various historical and literary accounts it states that boats would often be carried over the hills from the watershed of one river to that of another.

On larger rivers passenger ferries are available, along with cargo boats. On smaller rivers small boats with either an outboard engine or paddle are used; these will often pick up passengers. Prior to the coming of the boat engine (both out and inboard) a trip by river could take up to a month.

In many places the only option is to walk.

Examples of the transportation available to some of the settlements I visited while researching this paper are noted below:

Lawas - government road passing through Brunei Darussalam or light aircraft.

Marudi - light aircraft or ferry.

Belaga - light aircraft (occasional), ferry, logging road. I have never flown here due to the lack of availability and I only used the ferry once as it does not travel to Bintulu one of the hubs I used during my research.

Asap/Koyan - government road, this road has been made in the time I have been travelling here, prior to this there was a logging road.

Lg. Lellang - light aircraft; or together small boat and logging road, the road has fallen into severe disrepair and so can no longer be used along its whole

length.

Lg. Main/Lg. Kepang/Lg. Kramo" - on foot from Lg. Lellang.

Lg. Sabai - Boat and foot from Lg. Lellang.

Lg. Mejawah/ Lg. Segaham/ Lg. Belaong - small boat.

Lg. Semiyang - logging road.

### **History:**

According to radio carbon dating of charcoal matter found in close proximity to stone tools at the West Mouth of the Niah Great Cave, Northern Sarawak, humans have been inhabiting this area since the late Pleistocene, 40,000 years ago. At a similar level a human skull was also retrieved, known as the Deep Skull. These make up the earliest evidence of human occupation in Borneo to date. It seems from further evidence, found during the Harrisson excavations (1954-1962), that habitation in this area has been continuous. From these and other, subsequent excavations the early history from carbon dating is so far drawn up as:

‘sporadic late Pleistocene activity at the West Mouth (of Niah Cave) is suggested from radiocarbon dates on charcoal, with early occupation perhaps as 40,000 to 20,000 years ago.... The available dates strongly suggest that the West Mouth was then occupied repeatedly from the last glacial maximum (c. 20,000 - 18,000 BP) into the early Holocene c.10,000 - 8,000 years BP. Late dates suggest a mid-Holocene hiatus. These [there] is then a string of dates associated with the Neolithic, when the site was mainly used as a cemetery, starting about 3500 years BP or thereabouts.’ (Krigbaum & Pettit 2000:124)

Pottery can be seen for the first time at Niah in the third millennium B.C. but it is not known whether it was imported or locally produced. ‘Niah has yielded two types of pottery; double spouted vessels and the three-colour ware. Special pottery vessels were used in funeral rites which had begun to evolve’ (Chin & Datin 1991:10). They continue to say that this appears to have been the starting

point for the later practice of secondary burial of the dead and the use of large ceramic urns as ossuaries.

Movement of various peoples by sea started to become more and more frequent. In the sixth century trading started from Java and Sumatra, bringing the Srivijaya Empire and then the Majipahit Empire (Chin & Datin 1991:11). Trade routes were built up with China, India and other places within South East Asia, this can be seen by the influx of pottery and bead types found.

In the tenth century knowledge of iron smelting became available. To date, sites for this have been found in the Sarawak river delta. This knowledge gave rise to new and more adaptable tools, allowing for subsistence farming to flourish, as these made forest clearing an easier task.

During this time Muslim traders, most probably from Oman (seen in old Omani trade route maps), frequently visited the area, bringing Islam with them. By this time the Kingdom of Brunei had become very powerful in Borneo and with the arrival of Islam became a Muslim Sultanate ruling large tracts of Borneo; other areas being ruled by the Sultan of Sulu from the Philippines.<sup>2</sup> 'While the Islamic rulers exercised a certain degree of authority over indigenous groups in their immediate vicinity, there were vast tracts of country inhabited by indigenous people acting independently of such control.' (Thambiah 1999:7)

The state of Sarawak (named after the Sarawak River) started to come into being under James Brooke, a British soldier, born in India. Brooke first arrived in Borneo in 1839, during an uprising of Malays and Land Dyaks against the Sultanate of Brunei in the Sarawak River area. When he returned the following year, the fighting was still in progress, and he was asked to intercede. As a reward for this intercession he took the area surrounding the Sarawak river in 1841, this area became the earliest part of the State of Sarawak. To rule Sarawak

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<sup>2</sup> Sabah was initially leased by The British North Borneo Company from these two Sultanates.



James Brooke formed a government bringing his officers from England. Further land between the Rejang and Bintulu was then ceded to James Brooke, now known as Rajah Brooke, in 1861.

On the death of James Brooke in 1886, he was succeeded by his nephew Charles Brooke. It was during the rule of Charles, that the boundaries of Sarawak were extended to those of today, often by purchasing land from the Sultanate of Brunei. He began to formalize the government, and with this he also brought in Christianity, in the shape of clerics, (Bishop Hose being one example) and allowed missionaries to work in the area. Charles also made Sarawak a British Protectorate, in 1888, and with his help came the start of plantations.

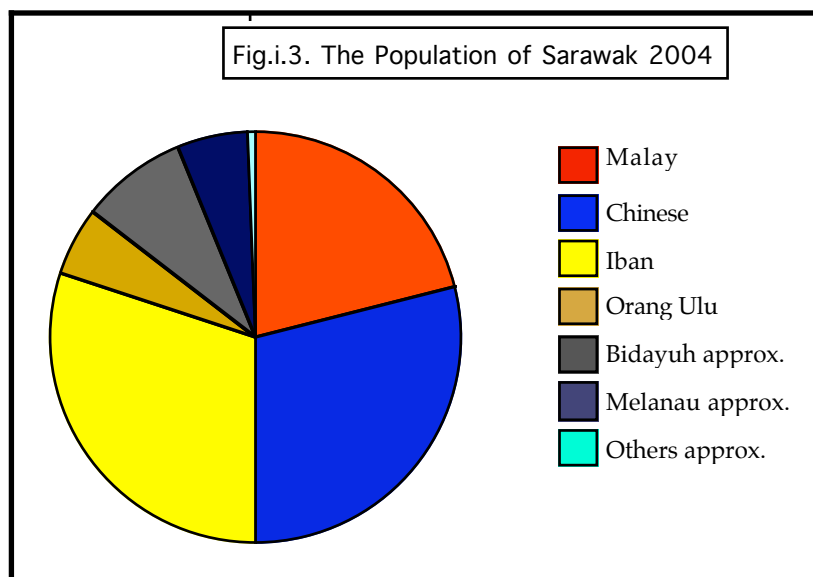
Charles Brooke died in 1917 and was followed by his second son Charles Vyner Brooke, who continued to upgrade the government system, to quell outbreaks of Head-hunting and to increase both the economic and technological interests in the area.

It was during the rule of Charles Vyner Brooke, that the Japanese invaded in 1941, whilst he was on leave in Australia. His officials were imprisoned and some executed under Japanese rule. During this period the indigenous people, with Australian soldiers of the Semut Forces carried out a guerrilla style war with the Japanese, while collecting information on their whereabouts, for the later Australian invasion. The Semut Force was lead by an Englishman by the name of Tom Harrisson, who later became the curator of the Sarawak Museum and carried out the initial Niah Cave excavations. With the Japanese surrender in 1945, Charles Vyner Brooke returned to Sarawak and ceded it to British rule, this was not a popular move and resulted in the murder of the British governor in 1949, in Sibu. Rebuilding the state started to occur under the British rule. In 1963 Sarawak was inaugurated into the Malaysian Federation.

## Population:

‘The diverse indigenous peoples of Borneo were - and still are - all similar in racial type with very similar economic and ecological orientations (i.e. dependence on the forest). But the processes of the creation and redefinition of identity, which were taking place in the early years of the colonial era, were inhibited by census taking and the agreements on ethnic status that were forged between the classifiers and those being classified.’ (Thambiah 1999:7)

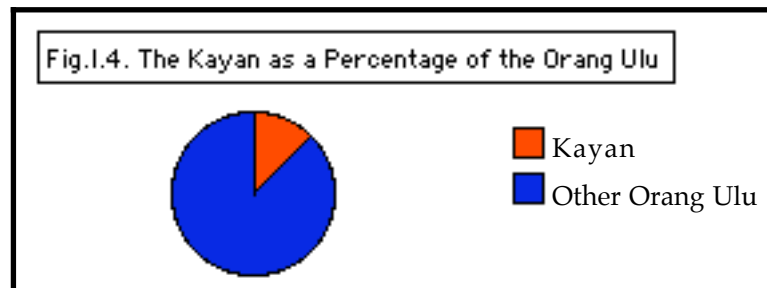
The total population of Sarawak currently stands at 2,176,800. It consists of 27 different ethnic groups. The main groups being: Malay 21%; Chinese (Fuzhou, Hakka, Hockien, Teochew, Cantonese and Henghua) 29%; Iban 30%. Of the remaining 20%, there are Bidayuh, Melanau, Indian and the Orang Ulu at 5.5% of the population (Sarawak Online 2004). An approximation of this is shown in the chart below:



As can be seen, the Orang Ulu, who are discussed in this paper form only a small part of the Sarawak population make-up.

The term Orang Ulu is basically an administrative term meaning up river people, generally those that live in the interior highland areas. It is an umbrella

term for 5.5% of Sarawak's population. Of the 119,724 people which make up the Orang Ulu, 15,000 are from the Kayan group (data from 2004), (this is 12.53% of the entire Orang Ulu population or 1.45% of the total Sarawak population).



The other 87.47% of the Orang Ulu population includes: Kenyah, Kelabit, Lun Bawang (Murut), Penan, Bhukat, Lun Dayah, Berawan, Sekapan, Sebop, Sihan, Saban, Seping, Berawan, Kejaman, Kajang, Lehanan and Punan Bah.

Often the Orang Ulu is further divided: to form the Kajang group, which generally covers: Kajang, Kejaman, Sekapan, Lahanan, Punan Bah, Sihan, Seping and Bhukat. Some of these groups are closely related to each other and also to the Melanau. It is, though, a political rather than a cultural grouping (Rousseau 1974 :18).

The Kenyah, includes Uma Bakah Kenyah, Baram Kenyah, and Badeng, and often the Berawan and Sebop. These peoples are grouped together predominantly on a cultural basis. The Berawan and Sebop are also very distinct from the Main Kenyah groupings, although in several places they are found living together with other Orang Ulu. Examples of this are found at Long San, where the Kenyah and Berawan live in very close proximity and the Kayan and Badeng live together at Long Mejawah. Kenyah groups lived in rigid classes prior to their conversion to Christianity unlike the classless society of the Berawan.

Kelabit, Lun Bawang, Lun Dayah are also often grouped together due to similarities in both culture and language.

Even in these categories the above groups are distinct from each other and can not be thought of as homogeneous.

The Penan<sup>3</sup> can be broken down into Eastern and Western Penan, depending on whether they are from the Belaga or Baram areas. 'The Eastern Penan comprise all those groups living to the north and east of the Baram river, as well as those on the upper Limbang watershed. The Western Penan include all those in Belaga District, as well as communities on the Silat River watershed and at Leng Beku.' (Brosius 2000:294). 'No less than 95% of the Penan population are either semi-settled or permanently settled. The semi-settled Penan form a much larger group than the permanently settled.' (Langub 1989 :172).

### **Religion:**

The main religions in Sarawak in order of adherent numbers are Christianity, Islam and Buddhism, with significant numbers of Hindus and Animists.

All of the groups from the Orang Ulu tend to have Christianity as their main religion today, both Anglicanism and Roman Catholicism are present along with S.I.B. (the Borneo Evangelical Mission - *Sidang Injil Borneo*). There are also a number of Muslims and those who practice local Animist traditions such as *Bungan Cult*. In some areas people will practice both Christianity and Animism in tandem. The old traditions still pervade many of the societies and can be seen

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<sup>3</sup> Confusion has arisen between the name Punan and Penan. This has caused problems with census, history and literary sources, where the two very distinct groups are mixed. Needham says: 'The problem was first discerned nearly ninety years ago by Beccari, though it was not until 1902 that he put it on record' (Needham - Penan and Punan - 1954:73) he goes on to try and address this problem using the literature available. Accordingly Rousseau (1974:24) when assigning the Punan Bah their name, says: 'The ethnic name of this group is simply 'Punan'. However, this has led to some confusion because some nomadic groups were also designated by the same name; this is why these Punan (Kajang) are called 'Punan Bah', after the name of their most important village (situated at the mouth of the Ba river.' Again due to this confusion of name, Jayl Langub (Distribution of Penan and Punan in the Belaga District - 1975:45) notes: 'There is no evidence, within living memory, to indicate that they [Punan Bah] were nomads; in fact, long before the Brookes extended their rule into the Belaga area, they settled in a small river called Sungai Punan, a tributary of Sungai Ba.'

easily in the use of totems for protection and in burial practice, such as the secondary burials of the Punan Bah and others, along with the production of the *kelireng* (mortuary columns).

Until the arrival of Christianity, Animism was prolific in Borneo amongst the non-muslim indigene. In Sarawak today this worship has almost totally disappeared except in the forms of *adat* and *Bungan Cult*. The older beliefs include many rituals and prohibitions based on hunting, gathering and the agricultural cycle. They frequently base these regulations on the movement of local creatures and natural signs such as weather and river movements. It is from these religions that *Bungan Cult* was formed.

*Bungan Cult* is, at its most basic, a simplification of the older Animist religions of the area.<sup>4</sup> It seems that it began in 1940, started by a man called Jok Apoi in Kalimantan. The name *Bungan* is from a Kenyah goddess and it seems that this deity appeared to Jok Apoi in a dream after he had suffered many setbacks in life, giving him the instruction to ignore bad omens and expensive taboo from the earlier religion thus allowing far more time to be spent on occupations such as farming and hunting, turning his fortunes around (Metcalf 1989:215).

The term *adat* covers the customs / traditions of the people for example: etiquette, superstition, belief, class, law and regulations. Each cultural group adhering to its own *adat*, and in some cases varying from village to village. Peter Metcalf (1991:4) states that:

‘The Berawan language contains no word that could be translated as “religion.” The general category of things under which the usages of religion are subsumed is called *adéd*, but *adéd* involves much more than religion. Table manners, or the Borneo equivalent, are *adéd*; so are rules concerning who may fish where, and who may wear what kinds of beads, and how fruit trees are inherited, and a thousand other things besides. *Adéd* is variable from one

<sup>4</sup> Further reading on the traditional religions of the area and an extended version of the well known story about Jok Apoi’s conversion can be found in Baling L. 2002. The Old Kayan Religion and the Bungan Cult Religious Reform translated by J Rousseau.

community to another, but as a concept, it is something that is widely shared by the societies of the whole Indonesian area. The word is a cognate of the Malay *adat*, itself a borrowing from Arabic, and in this form is familiar throughout the archipelago.'

This *adat* has been found being used by all of the Orang Ulu groups. Christian conversion has not been able to erase them totally. Prior to conversion all the groups had very strong *adat*. *Adat* basically forms the customs and traditions of all these people.

## MULTI-SITED FIELDWORK: THE ORANG ULU

### *MY STUDY PARAMETERS*

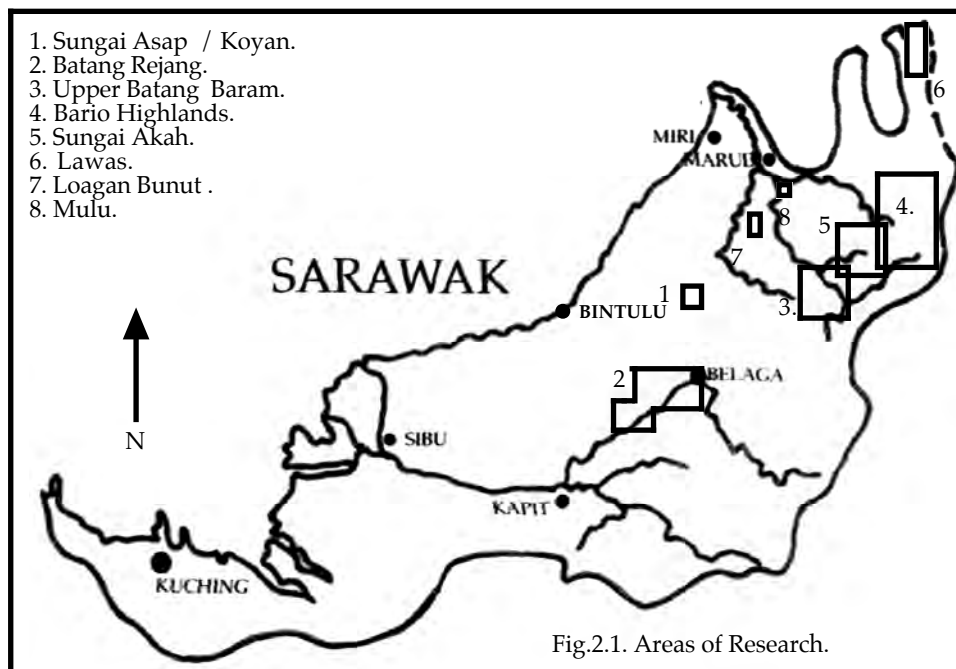
I have already said that Orang Ulu is an umbrella term for many small indigenous groups living in the interior highland area. At 5.5 percent of the population these communities are very widespread, consequently I had to produce a framework for my research that would allow me to cover a large region. I, therefore, decided to carry out my study on a multi-sited basis. Marcus describes multi-sited ethnography as: 'to examine the circulation of cultural meanings, objects, and identities in diffuse time-space.' He continues to say 'This mode defines for itself an object of study that cannot be accounted for ethnographically by remaining focused on a single site of intensive investigation.' (1995:96). He further says 'fieldwork as traditionally perceived and practised is already itself potentially multi-sited.' (1995:100)

Much work has been carried out on the study of technology using traditional single-sited research and I felt that expanding these principles into a multi-sited framework would give my work a strong base. Wogan (2004:129), though, asks the question: 'is [there] any danger of spreading ourselves too thin - whether anthropology's traditional strength may be at risk. And if this risk is more acute in multisited research, what solutions are possible?' Keeping this in mind, along with the fact that it takes a long time to fully understand manufacturing technology; I realised that the craft work of all the Orang Ulu groups could not be studied for this thesis. I decided that in this instance, I could study the work of several of them in-depth and compare with work I could undertake with brief visits to other groups (problems of transport, time and the logistics of travel in the region allowing). Those I was unable to visit included the Seping, Sihan, Sebop and Saban.

Due to the large size of the Kayan population and the differences of craft style

that can arise within a large community spread over a large area, even from village to village, it became apparent to me that their work would demand a thesis of its own. I decided that it would not be possible to cover Kayan craft knowledge comprehensively, within this thesis.

The main communities I studied were the Badeng at Sungai Koyan; the Kelabit at Lg. Lellang and the Penan at Lg. Main, staying with each of them in their villages for several months. I also stayed with the Kejaman Lasah on the Batang Rejang river for a short time, with two follow up visits. Over several visits to the town of Lawas, I spent time with makers of Lun Bawang crafts, together with those who grow and prepare some of the plant materials used. Other groups were visited on a day basis from one of these communities. I visited the Penan Talun being only a short walk from the Badeng on several occasions, to purchase baskets, for study, and socially as neighbours. Short précis' about these differing peoples have been included here.





Community	Months	Weeks	Days	Hours
<b>KENYAH</b> Kenyah Badeng Lg. Geng, Sg. Koyan Kenyah Badeng Lg. Mejawah Uma Bakah Kenyah Upper Baram Kenyah Lg. Belaong Upper Baram Kenyah Lg. Simiyang Berawan	6		1 1 2 2	3
<b>KAJANG</b> Kejaman Lasah (Lg. Segaham & Belaga) Punan Bah Sekapan Pi'it Lahanan		3	2 1 1	4
<b>KELABIT &amp; ASSOCIATED GROUPS</b> Kelabit Lg. Lellang Kelabit Bario Kelabit Marudi Lun Bawang Lawas	5	2 3	4	6
<b>PENAN</b> Penan Lg. Main Other Upper Baram Penan Penan Talun	6	3	5	
<b>OTHERS</b> Bhukat				2

Fig.2.2. Approximate lengths of visits to the various communities.

Communities	Abbrev.	Topographical	Abbrev.
Berawan	B.	<i>Batang</i> / Large river	Btg.
Bhukat	Bh.	<i>Bukit</i> / Hill, mountain	Bkt.
Kejaman Lasah	Kj.	<i>Gunung</i> / Mountain	Gng.
Kelabit	Kl.	<i>Long</i> / confluence (denotes village position)	Lg.
Kenyah Badeng	K.B.	<i>Sungai</i> / River	Sg.
Long Belaong Kenyah	L.B.K.		
Lun Bawang	L.B.		
Penan	P.		
Penan Talun	P.T.		
Punan Bah	P.B.		
Sekapan	Sk.		
Uma Bakah Kenyah	U.B.		
Upper Baram Kenyah	U.B.K.		

Fig.2.3. Tables of Abbreviations used in this thesis (*Malay* / English).

(N.B. Many of the indigenous people with whom I worked have European style names, in some cases they possess both a European 'Christian' name and a local name, here, I use the names by which they were introduced.)

## Accommodation

As my fieldwork was multi-sited it was important for me to find accommodation close to the areas of study where I would get the chance to build up relationships with the people whose craft skills I was studying.

## **Community Remuneration**

No information during my stay was given to me in exchange for money, although I paid for hotels, hostels and transportation. When visiting a family and living in their home I would always take a box of various food stuffs; enough to feed me for the entire length of my stay along with some basics such as iodised salt, sugar, coffee, soap and laundry soap. This food was then split into meals for everyone to supplement the local produce.

On returning to the city I would put together a shopping list of the various things my host family and the people helping with my research required, asking them, rather than trying to second guess their needs, and taking the shopping to them on my return. These items included various types of household linen; basic medical supplies such as plasters, antiseptic and menthol rub (I did not feel that it was appropriate for me to take medication); toothbrushes and paste; school supplies like exercise books, pencils, bags and occasionally items of uniform; and small toys for the children.

The Penan at Lg. Main had requested that I take any cast off clothes I could find, for wear when they were travelling in the rainforest, as there are some caterpillars which when touched shed hairs causing extremely severe skin rashes. Any clothing that has been in contact with these hairs has to be thrown away immediately and so a supply of completely disposable clothing is very handy.

When I was visiting communities for only a few hours I would take sachets of instant coffee and malted drinks, cordial and biscuits for consumption by everyone as we talked. Where these communities had items for sale I would generally make a purchase.

## THE COMMUNITIES

### Communities in the Asap & Koyan Area

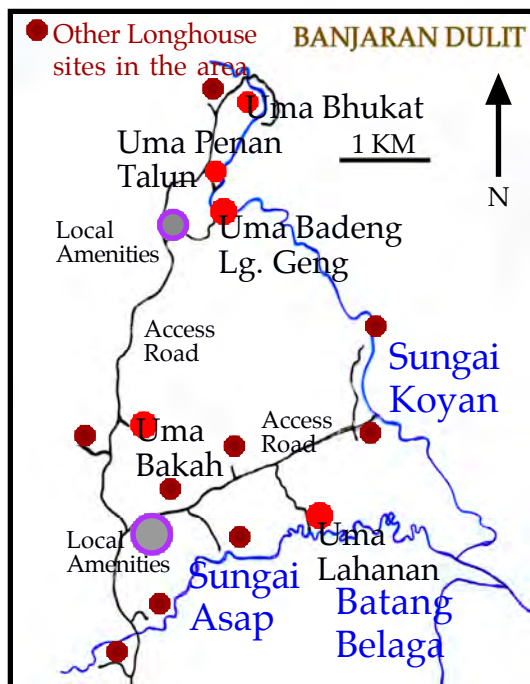


Fig.2.4. Map: The Asap & Koyan Area.

The Asap/Koyan area can be reached by road (see research area 1 on the map - fig.2.5). Initially the journey had to be by four wheel drive, taking approximately 3.5 hours from Bintulu. Due to road improvements, an ordinary car can now be used, taking the same amount of time. A bus runs twice a day from Bintulu on its way to Bakun, making two stops in the Asap area. Mini buses are also available; and people from different communities use

particular pickup points in Bintulu where vehicles from their own village will wait, to ensure their personal safety. On occasion these vehicles will travel to Miri or Belaga. I have used all the above methods of travel to reach this area.

The villages here have mains electricity and water. There are several small health centres and primary schools however, those attending secondary school travel by four wheel drive to Belaga on the Rejang river. Public telephones are available at the Belaga District sub-office and many homes receive both radio and satellite television, most families having VCD or DVD players.

Communities in this area were recently relocated here to make way for construction of the Bakun Dam Project. The new location provides some land for each family to produce a small farm and garden, and, where agreement of the village headman has been gained, a fish pond. There is also access to primary education, healthcare centres, a government office and a small supermarket, in some villages there is also a general store.

## Fieldwork Interaction / Arrangements

On arriving in the Asap/Koyan area I first visited Uma Badeng, Lg. Geng. Initially I stayed with Asang Lawai, his wife Onyang and their youngest son Junis in block H of the village. One night was spent with Samah who lived several doors away. Her husband was away and she didn't wish to stay alone, this gave us an opportunity to start to get to know each other.

Several days into my visit Asang's daughter Darie Linchaw and her children, who live in the *bilik*<sup>1</sup> next-door to her parents, arrived back from the logging camp where her husband works and asked me to live with them for the remainder of my stay. Subsequently, I have stayed with them on each of my visits and been assimilated into their family and given the Badeng name *Mening* (transparent/clear, a heroine from one of their traditional stories). I have also been given the option to stay at Asang and Samah's *bilik* if Darie is away when I am in the area.

Darie speaks some English as do several other people living in block H and we communicate in this, Malay and the Badeng that they have taught me.

Lg. Geng is a very large community and most of my research has been carried out on the section of the veranda where Darie's *bilik* is situated, (block H). This has meant that I have been able to form close relationships with all of the families who live here and together they have helped me to carry out my research. From time to time I visit with women from other areas of the village and they too have helped to teach me the various craft skills they have.

<sup>1</sup>*Bilik* is the Malay term used for a room or suite of rooms, whereas *rumah* means house or dwelling place i.e. *rumah panjang* - longhouse.

I spent many hours with Asang as he showed me the skills needed for the different objects that Badeng men produce. Grandfather Ladung Kayang returned from his farm to the longhouse with the express purpose of passing on his knowledge of weaving to me.

From Lg. Geng I have visited other communities in the area. In each case Darie has accompanied me and translated where necessary. With the exception of the Penan Talun, who live close to Lg. Geng and visit back and forwards, the people we visit are either friends of Darie or members of her extended family through intermarriage.

The communities vary greatly in size, and I visited both the very large and the very small. My work in this area was predominantly carried out with the Badeng, comparisons being made with the various other groups.

### **The Badeng Community**

Rousseau (1974:20) says that the Badeng 'are sometimes included in the Kenyah group, with which they have many affinities but it is not clear if they agree with this classification.' Today they often refer to themselves as Kenyah Badeng and those I met stated that they are Kenyah.

The Badeng of Sungai Koyan, were moved to the Asap / Koyan area, in the Belaga sub-division, approximately four years ago (2001). Prior to this they had been at Long Geng, but due to the construction of the Bakun Dam, it was necessary for them to move to their current location. Some Badeng chose to move to other locations: Lg. Mejawah on the Rejang River, where they joined the Kayan already living there; Lio Mato to join with other Kenyah groups in the Upper Baram; and the Danum area (23-27 doors), joining with Penan already in the area. Where they have joined with other groups it is because of the support that these groups have given to the incoming people. Badeng can

also be found at Lg. Geek and Lg. Lawan (40 doors). The Badeng had lived at Long Geng for about one hundred and forty years, after moving there from Long Patan (Pandan?), where they had been at war with the Iban from the Kapit, Bintulu and Sibu areas. Apparently during this period of war, they took a great number of heads (pers. com. Darie Linchaw 2001).<sup>5</sup>

The village at Koyan (known as Uma Badeng, Lg. Geng) consists of thirteen longhouses; each containing thirteen doors, with the exception of one which has seventeen doors; each door containing a family unit. The total population is around two thousand people when everyone is present.

The Kenyah Badeng have, in general, converted to Catholicism from the Bungan Cult. An Anglican church is also being built at the Sungai Koyan site. This has caused a lot of changes to community life, as can be seen by their changing use of motif amongst many other things. Previously there had been a very strong idea of the village hierarchy most obviously identifiable by the use of symbol in art and craft works. Originally only a person belonging to the upper class would have been able to use the human form, or parts of the form such as the head within designs (Darie Linchaw, Asang Lawai pers com - 2002). This type of design is most evident in the beadwork found on the baby carriers - *bak aban*. Although the regime is changing slowly and it is said that anyone can use the designs now, in practice I did not find it to be particularly evident, as people are still using the designs allotted to their previous class. Eligibility to use a certain design is still discussed regularly, although all those asked agreed that they all had full use of any design.

Many of the men work in the logging camps or in Bintulu, Sibu or Kuching and so are away for long periods. Other people spend shorter periods living at their farms (*ladang*) nearby, especially during the ripening period of the rice, to prevent destruction and loss caused by animals such as monkeys and deer.

<sup>5</sup> Details on other Badeng village sites and their economy can be found in Armstrong R. 1998 Insufficiency and Lack: Between Production and consumption in a Longhouse Economy 1909 - 1996. In *J.R.A.I.* (N.S.) 4: 511-530. For information on Badeng migration in other areas of Sarawak see Puri 2005:60.

Rice is the staple carbohydrate in their diet which is farmed by the swiddening method. The storehouses for the rice, surround the longhouses. There is a garden for each family, also situated close to the longhouse, where their fruit and vegetables are grown, including papaya, pineapple, cucumber, beans and bananas. Pepper is grown here as a cash crop and other food produce is collected wild, from the surrounding areas. Rattan, bamboo, *namam* (*Dicranopteris linearis*) etc. are also collected further afield. Fish are caught in the nearby river and streams. Occasionally people go hunting, but this usually involves travelling quite long distances. Other needs are either met by the local shop, or by occasional trips to Bintulu. This pattern of longhouse living is followed by all of the communities I visited here.

### **The Uma Bakar Community**

The Uma Bakar, are a Kenyah community who originally lived at Lg. Bulan on the Batang Balui, until they were moved to this new area. The village is structured along the same lines as the Badeng and has approximately the same population, contained in 200 doors.

Although this group is Kenyah, and their way of life is very similar to that of the affiliated Badeng, there are differences not only in language, but, also in the items which they produce. Like the Badeng they have predominantly converted to Catholicism. Since this conversion the longhouse hierarchy/stratification has again broken down and can be seen in the changing use of motif. Their way of life since moving to the Koyan area is very similar to that of the Badeng, relying on swidden farming for the basic food necessities, producing cash crops and working outside the area in the logging camps and towns to provide an income (Kolat & Eden pers. com. 2002).

## The Bhukat Community

The Bhukat are also known as Bukut, Bukat, Bhuket and Ukit (they themselves choose to be known as Bhukat). They are the only Bhukat community in Sarawak, coming from Lg. Ayak in the Balui area. Two other Bhuket longhouse communities can be found in Kalimantan, Indonesia, but there are now only a few people from this ethnic group surviving.<sup>6</sup>

The longhouse at Koyan is very small consisting of only 26 doors. The Bhukat were described in 1882 as:

‘nomads in habits, they all live by what they can obtain by the sumpitan or blowpipe, on pigs, monkeys, and other animals, roam about from one part to another over this large sparsely inhabited district in search of food, they do not plant, but are clever in making mats from the rattans of the old jungle, split dextrously and finely woven together and adorned with eccentric patterns in black. These mats are most durable.’(Anon - 1882:1).

Thambia notes that: ‘Bhuket were previously a hunter-gatherer group. Although they were nomadic, they carried on a certain amount of trade with their agriculturalist neighbours,’(1995:98). Today the people are swidden farmers, who enjoy hunting to a great extent. ‘while padi is farmed for subsistence and not to produce a surplus for sale. Weaving of mats is the main cash generating activity of most Bukut households. Bukut mats command slight premiums compared with the mats woven by neighbouring groups as their quality is second to none.’ (Heppell - no date:24).

Many of the Bhuket had returned to their former longhouse in the Bakun area when I visited and very little weaving or carving was being carried out, but I spent some time documenting their finished products. Many of the Bhukat were uneasy having a researcher visit them after problems had arisen with earlier research carried out in their community, due to this my visits were

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<sup>6</sup> Lumholtz who met them in Kalimantan mentions their recent settlement from being nomadic in his journal from 1913 -17 (Through Central Borneo -1920:216).



confined to the headman's home and to relations of Darie Linchaw of the Badeng.

### **The Penan Talun Community**

The Penan Talun, are no longer nomadic and have been settled for a long period of time, changing their name depending on location. They occupy a single longhouse in the Koyan region.

‘When the Penan Lusong lived in the Pejawe’ river they were called Penan Pejawe’. They moved into the Linau valley almost as soon as the Kayans left that area of the Baram about 100 years ago... frequent contact with government officials at Lusong Laku... induced the Penan Pejawe’ to settle in the Linau and from then on became known as the Penan Lusong. They also split into two groups: one group remained at Lusong laku and another moved to the Balui and became known by another name as Penan Talun.’ (Langub - 1973:75).

Today they tend only to weave *ingen*, *blanyat*, *keratang* and *burat* (mats). They bring rattan from as far afield as the Belaga river area, due to its scarcity locally. The men's work includes the production of *penat* the small bladed, long handled knives, called *pueh* by the Kenyah Badeng, these along with *ingen* are frequently sold to the other groups in the area. Other objects are bought in, the *sa'ung* coming from the Kenyah Badeng and other groups in the area. Other work includes wood cutting, hunting, collecting fruit and farming.

### **The Lahanan Community**

The Lahanan, one of the groups collectively known as the Kajang, occupy a community of six longhouses, each of fifteen doors, in Asap.

They produce very little in the way of woven objects now, preferring to buy

articles from other communities, most ostensibly the Penan Talun in the area, from whom they purchase *ingen* and mats. They do, however, still produce such items as *tapan*, *keratang* and sieves which they call *elik* and *blanyat (ajat)*. They also produce their own sunhats (*si'ng*), headbands (*tapau*), and *gasing*. Time, which would normally have been spent on craft work is now spent on the beautifying of their longhouse area, with turned veranda rails, paving, flower gardens and an area with provision for several sports including football and *sepak takraw* a game involving a rattan ball.

### The Communities on the Batang Rejang

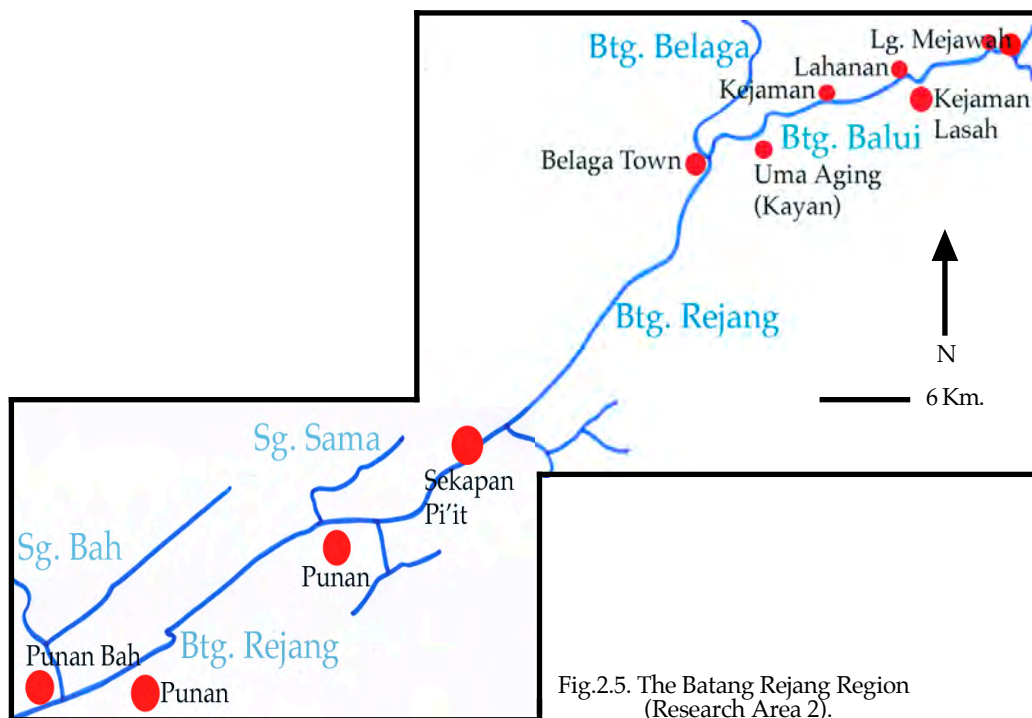


Fig.2.5. The Batang Rejang Region (Research Area 2).

There are three ways of reaching Belaga, the principal being by passenger boat from Sibu taking 8 hours; by four-wheel drive, taking approximately 5/6 hours or by twice weekly Twin Otter flight from Bintulu (see fig.2.1). The first cannot run all the way to Belaga in times of low water because of the dangers caused by the Pelagus Rapids, the second is dependent on the weather, which often causes landslides, blocking the logging track. Twin Otter planes cannot fly in bad weather, also seats are at a premium. I used four-wheel drive vehicles for all but one of my visits, when I used the ferry for the return journey. From

Belaga longboats with outboard engines are used to travel to the various Longhouse communities and occasionally a speedboat is available, but the cost is prohibitive.

#### Fieldwork Interaction / Arrangements

When in this area, I was based at one or other of the two homes belonging to the Tivoi family, who are Kejaman Lasah. The Tivoi's elderly mother lives at Lg. Segaham where they have a *bilik*, other members of the family also stay there regularly. The family also has a house in Belaga where two of the brothers and their families live permanently, others staying when necessary.

I got to know the Tivoi family as one of the sons occasionally works for the *Majlis Adat Istiadat* (Malay - Office of Customs and Tradition) and had provided transportation for several of my visits to the Asap/Koyan area. The family introduced me to the Belaga District Officer and Chief of Police whilst I was in Belaga so that they were fully informed about my research.

Several of the family speak English, one fluently and they would often translate if they were with me. Research with Mrs Tivoi, Sabai and Talun at Kejaman Lasah was carried out in Malay (*Bahasa Malayu*). The Tivoi family own several boats and so provided transportation for me to visit other communities on the Rejang. Paul Tivoi accompanied me and provided translations at Lg. Mejawah and the Sekapan Pi'it and Frank, a Kayan friend of the family, from Lg. Mejawah took me to the Punan Bah and translated as he had lived with them for a number of months.

## The Kejaman Lasah Community

The Kejaman Lasah are found at Rumah Long Segaham on the Rejang, an hour up river from Belaga. They have lived in this area for a considerable time. Their longhouse contains 61 doors, each housing a family unit. It is built on top of a steep bank and runs parallel to the main river. They are one of two Kejaman groups found in this area; with others at Sungai Asap. The Kejaman are a subgroup of the Kajang and other Kajang groups are also found living nearby.

Some people living here have electricity, but not all, I saw no evidence of television and there is no phone system.

On my last visit in 2004 the Kejaman Lasah were building a new longhouse, this was situated directly behind the one I had previously visited, which was being cannibalized where possible to make the new structure. People were living in a combination of the two houses.

The longhouse is surrounded by the community' fruit trees, whilst fishing is carried out in the river. The river forms the only access to this longhouse, and so is thoroughly utilized for both transport and supplies, many of the families owning their own boats. There are also *ladang* nearby where their crops are grown, including their staple, rice; with people living at the farms for extended periods. Many of the men work in a nearby logging camp, but this is close enough for them to return home easily. Others work further away in Bintulu and as far afield as Johor Bahru, West Malaysia, returning for holidays and special occasions (pers. com. Jani & Paul Tivoi 2001).

A great many utility objects from plant materials are made at Rumah Lg. Segaham and the techniques are being passed down through the generations. The people here also encourage traditional music, with several of the women playing the nose flute and the youngsters attempting to learn.

The population is Christian, although no church was in evidence. Religious designs can be seen in many of their motifs, especially in commemorative beadwork, at which the women are extremely skilled.

### **The Badeng Community**

Up river again from the Kejaman is a second group of Kenyah Badeng at Rumah Nyaving, Long Mejawah. Here they occupy a 21 door longhouse, sharing the Long Mejawah area with a Kayan longhouse as already mentioned. Again many utility objects are produced, but at the time of my visit there was little rattan already cut, accessing rattan being an ongoing problem for them (pers. com. Margaret 2001). Their rattan work is very fine and further study here is required.

### **The Sekapan Pi'it Community**

The Sekapan are associated with the Kajang and live slightly down river from Belaga in a group of several longhouses situated around a main square at the top of the riverbank, incorporating also various group meeting rooms. The longhouse was quiet as I visited it mid week, when all the children were away at school, people at their farms and some of the men at the logging camps or other employment. I could find very little information on the Sekapan as little has been written to date. From my trip I discovered that they produce many objects from rattan and like many of the peoples in the area are highly experienced at beadwork. Like other Kajang, they are swidden farmers who also hunt, though in the past they were, according to Rousseau (1974:18), sago eaters.

## The Punan Bah Community

Down river from the Sekapan, on the same bank, are the Punan Bah (Belaga is in easy reach by boat and I saw no other forms of transport.). The people I visited here are one of seven Punan Bah communities in Sarawak, with a total population of approximately 4,000. Their society, like other Orang Ulu groups in the area is stratified (Nicolaisen - 2003:126).

Traditionally the Punan Bah practice Animism, although some people have now converted to Christianity or Islam. Animism in the form of *Bungan Cult* still plays a large part in community life, together with the ritualistic practices of secondary burial of the dead and its associated ceremonies.

Langub states 'They are longhouse dwellers and sophisticated agriculturists in the sense of the rites and ceremonies they perform in connection with shifting cultivation.' (1975:45). These rites are in association with the *bungan cult* beliefs. Aspects of these beliefs can sometimes be translated into motif within the designs used in their craft work and also found on their heavily carved burial posts called *kelering*.

'The Punan Bah (those who have not moved to towns) subsist on slash-and-burn agriculture, growing rice, maize, yams, manioc, bananas, and a range of other crops, as well as on yields from hunting, fishing, and gathering. However, cash income has become increasingly important to the economy over the past fifty years. Revenue is generated primarily by working for timber companies and the government, but also from carpentry, tapping rubber, growing pepper and cocoa, selling produce from the forest, including game and fish and by petty trading.' (Nicolaisen 2003:127).

There did not seem to be electricity in the homes I visited.

## Communities from the Upper Reaches of the Batang Baram

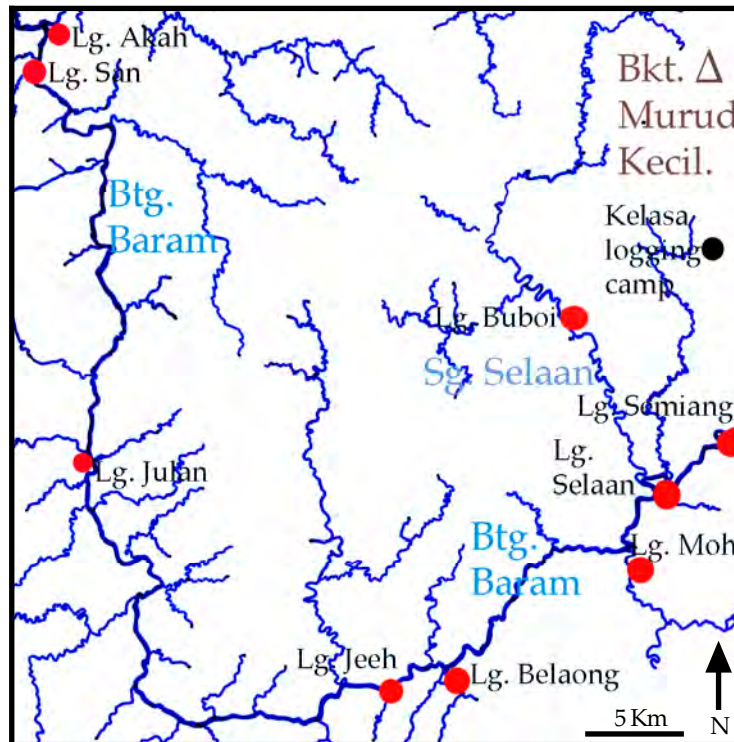


Fig.2.6. The Upper Baram Region. (Research Area 3. )

### Fieldwork Interaction / Arrangements

My research with the Penan from Lg. Buboi was carried out whilst staying at Kelasa logging camp, the Penan had come here to attend a week long craft workshop. I also met, for the first time, some of the Penan from the Akah area with whom I later worked. On my return journey from the camp I got the chance to visit Lg. San, a Kenyah and Berawan village.

Later I stayed with a Kenyah friend from Lg. Lellang at her family home in Lg. Belaong, here I spent time with her Aunt who weaves a variety of baskets. I briefly visited Lg. Simiyang on the journey to Lg. Belaong. Other research was carried out with two Kenyah women living in Miri, both of whom I had met prior to this research.

The upper Baram villages can now in part be reached by four-wheel drive, an 8 hour journey; also by longboat and outboard engine along the Baram; one has to use both methods to reach most communities. Another option, which often has to be used in conjunction with the methods already mentioned is by Twin Otter to Lio Mato, Lg. Banga or Lg. Akah/San. Electricity is supplied by diesel powered generator.

### **The Kenyah Communities**

According to Whittier (1978:92) talking generally about the Kenyah as a whole in Borneo 'There are about 40,000 Kenyah comprising over forty named divisions and living in over 110 communities. The majority of these are located in the province of Kalimantan Timur, Indonesian Borneo.' Communities in Sarawak are found in the 4th and 7th Divisions. From personal experience in the Asap and Koyan area of the 7th Division I found that there is a huge amount of contact with Kenyah from the Indonesian side of the border. It is thought that the Kenyah migrated into these areas from the Apo Kayan in Kalimantan which is known as the Kenyah homeland (Guerreiro & Sellato - 1984(ii):15) along with the Usun Apau (pers. com. Darie Linchaw 2001).

The Kenyah live in longhouses situated at river confluence's. Like many of the Orang Ulu, a few families today are choosing to live in family houses close by the longhouse. Many Badeng are also found living in or near these Kenyah communities.

Sustenance is provided by swidden farming, hunting and fishing. Economically many are also growing cash crops such as pepper and coffee. Their other income comes from working in the towns, logging camps or plantations. In some cases they are the owners of bird nest caves, which are extremely lucrative for a very lucky few.



Today almost all the Kenyah in the area have converted from Bungan cult to Christianity, in the main adhering to S.I.B. values, although there are a number of Catholics. Prior to Christianity, Kenyah society was hierarchical in much the same way as the Badeng.

### **Communities from the Kelabit Highlands and Sungai Akah**

#### **The Kelabit Communities**

The Kelabit live in several closely related places. The largest population can be found in and around the Kelabit highlands, especially the Bario Plateau, in North-eastern Sarawak, on the border with Indonesia (where many associated peoples also live); also, in adjoining areas such as Lg. Lellang in the Upper Baram; and other close highland areas such as Long Seridan by Gunung Mulu.

The Kelabit are closely related to the Lun Bawang whose traditional lands are found just to the North including Ba Kalalan (seen in the map fig.2.7.). 'The Kelabits are a tribe of people living in longhouse settlements in the region stretching from the Karayan and Kelapang river northwards to the upper Limbang River. This area was the belt of the Kelabit hinterland, with minorities settling on the fringe areas.'(Raja - 2003:13)

The Kelabit are slash and burn farmers, for whom rice is the staple, but, unlike any of the other indigenous groups, they farm primarily using the wet padi method of rice cultivation, relying heavily on irrigation of the land. Very occasionally a small amount of hill padi can also be grown.

Prior to the Kelabit conversion to the Evangelical Christian beliefs of S.I.B. their society was highly stratified like many of the other indigenous groups nearby. They practised secondary burial and are known to have used large stone funerary monuments, hollowed stone recesses and rock carving to honour

their dead (Harrisson 1958:190). The Borneo Evangelical Mission, now known as S.I.B. first visited the Kelabit in the Bario Highlands in 1939, later visiting Lg. Lellang and the Penan in the area. The conversion of the Kelabit began in earnest in 1947.

'By the mid- 1990s, approximately three-quarters of the total Kelabit population had taken up semi - permanent residence in town areas, with the largest concentration in Miri where jobs related to the offshore oil industry have drawn large numbers of rural migrants.' (Amster - 2003:253). Homes were traditionally situated within a longhouse and to a degree this is still the case, but many people are now choosing to build single family dwellings in the vicinity of the longhouse.

### *The Bario Kelabit*



Fig.2.7. The Bario Plateau.  
(Research Area 4)

On the Bario Plateau the climate is temperate, allowing for the growth of many temperate vegetables. Bario rice and also the pineapples (which are particularly sweet) are very well known as high quality products in Sarawak, and so are very saleable. Transportation is the main problem from here preventing large scale production for outside sale. There are daily twin otter flights from Bario but for many this entails a days walk to get to the airport.

A telephone network and, recently, access to the internet in the main community of Bario have become available. There is a local clinic with outreach workers serving the smaller villages. Both primary and secondary schools are also situated in Bario.

Unlike any other Orang Ulu group, and Kelabit elsewhere, the Bario people keep water buffalo, which are used for tilling and other farm work and have been objects of barter and dowry.

The people produce salt with a high iodine content from mineral springs found in the Bario highlands, this has a huge benefit on their health as a preventative for goitre and is also a saleable commodity due to its health giving properties. Harrison says 'one way the kelabit became rich in jars and beads is by trading this salt overland to the east' (1958:190) this gave them the means to be highly decorative with their object manufacture. From personal observation it was apparent that the Kelabit associated groups from the Indonesian side of the border and the Penan carry out most of the salt production today, selling it in and around Bario. Traditionally it was leaf wrapped, but today is now purchased in plastic bags.

#### Fieldwork Interaction / Arrangements

I stayed in a homestay in Bario and I introduced myself to various people at their homes and asked about their craftwork. I also hired a guide to show me the salt works, and some of the villages near to Bario.

I met Rose Gerau during my stay here and she provided information on various baskets both at the time and when we have met subsequently. I travelled to Bario with two friends who work for the Wildlife Conservation Society and they provided translations where necessary.

### *Long Lellang Kelabit*

#### Fieldwork Interaction / Arrangements

Whilst researching at Lg. Lellang I stayed in the family home of Tama Pun Mengga and Sina Buad Arun whose children all work away, they again adopted me as family. In the evenings whilst I was here they taught me much of the technology involved in basketry and mat making. Frequently they had members of the nearby Penan communities staying with them from whom I learnt some Penan method, and often Penan would come to the house to see me and help with my research work.

I spent my days with Lawai and Salalang at their home on the other side of the Akah river or accompanying them on trips to gather weaving materials. When in the house we would prepare the materials and Salalang (a Kenyah) taught me the construction methods of all the woven items belonging to the Kelabit and also helped me to further my knowledge of Upper Baram Kenyah objects.

In Research area 5 I also stayed with the Penan who live at Lg. Main, a village about one and a half hours from Lg. Lellang on foot, depending on the conditions of the terrain. I lived in the family house of Saloma Jalong whilst I was there, she and her mother are very experienced weavers whilst the male members of her family produce a variety of hunting equipment

Other information was gathered from people living at Lg. Sa'it, Lg. Sabai, Lg. Benalih and Lg. Kepang who were visiting Lg. Lellang and Lg. Main; and also from Penan settled in or visiting Marudi.

Migration, due to a shortage of arable land and a large increase in population in earlier times led many of the Kelabit to move from Bario to the uninhabited fertile land found in the upper reaches of both the Akah and Tutoh Rivers

where there was plenty of game and fish to be found. It was some of these people that eventually formed the settlement situated at the current Long Lellang site for the last 25 years (Raja 2003:15).



Fig.2.8. The Sungai Akah Area.  
(Research Area 5)

Where, as previously, the primary school children had to travel to Pa' Main in Bario to learn, which is a walk of several days. Today there is a primary school in the village, serving children not only from here, but also Lg. Main, Lg. Sabai, Lg. Kramo', Lg. Kepang and Lg. Benalih, most of which are Penan villages. A great importance is put on education in this area and Long Lellang has a history of producing graduates. Also available are a clinic, an airstrip with twin otter flights twice a week, and two very basic shops. All electricity here is supplied by generator. Radio programmes (Kayan Radio) from Miri can be received, on which emergency notices are posted, a satellite telephone is available and they have use of the airstrip communication system. Several families have satellite television.

The weather in Lg. Lellang is not as temperate as the Bario highlands, although quite cool at night, so the fruit and vegetables farmed are the same as those farmed by the other Orang Ulu groups, living at lower altitude.

Most of my information on Kelabit crafts was gathered in Lg. Lellang, with some information taken from nearby Lg. Kramo' and a short visit to Bario in the Kelabit Highlands.

## The Penan Communities

The Penan are found in small communities across state divisions 4, 5 and 7 (see fig.1.2.). Apart from a small amount of material produced in the Mulu area (Research Area 8.) and Lg. Bubo (see map, fig.2.6. Research Area 3), all of the Eastern Penan material I studied for this paper was produced in the Sungai Akah area of the Upper Baram.

A few Penan in the upper Baram area still live traditionally nomadic lifestyles, moving from sago stand to sago stand (as they take time to re-grow), which is eaten as their main source of carbohydrate. They follow game migration routes and inhabit temporary shelters erecting them as necessary from materials found close to hand. Penan living in a traditional way support themselves by hunter gathering. They gain a small amount of monetary income from the collection of jungle produce such as dammar and other resins, *gharu* (aloes wood), rattan, and fruit and by the production of handicrafts of a type which are light and easily carried to the market.

The second lifestyle that the Penan here often choose to live is semi-nomadic, inhabiting permanent villages, but often going on excursions into the forest to collect jungle produce, to hunt and to gather vegetable food stuffs. These trips can necessarily take many days. When they are in the village, the people grow hill-padi and other food, often also raising some animals such as chickens and pigs. They learn much of this knowledge from neighbouring permanently settled Orang Ulu groups, such as the Kenyah and Kelabit. Spare time in the farming calendar is spent producing crafts, but time cannot always be found around clearing and planting time and during harvest. It is to this group that most Penan choose to belong.

The third habitation choice is to be permanently settled either in a longhouse or family homes like those used by the Malay and Chinese. Many of the villages

have both types of dwelling. Permanently settled Penan keep farms, growing either hill or wet padi, the choice seeming to depend on what the neighbouring villages produce as they are the people from whom they learn the techniques for farming. Fruit and vegetable gardens are cultivated, alongside fish ponds and animal husbandry. (There are groups and training schemes which travel to these very rural areas to help with the teaching of agricultural knowledge, health and hygiene amongst other things, for Penan choosing to settle). Incomes are supplemented again by craft work, but also by working on farms belonging to other groups, especially around harvest time. Some will also choose to work in the towns or at the logging camps.

Often the choice to settle permanently is due to a family's wish for the education of their children or to be near clinics. It is also becoming far harder to find enough food to sustain a family using hunter-gatherer methods alone and so it has become important to supplement the diet by growing a certain amount of food. People will often move between the three states of settlement, but it is thought that the most usual choice would seem to be that of the semi-permanent settlement as it gives such a large range of food types, with two sources of carbohydrate. It also gives a range of ways to earn some income and allows children to learn the traditional way of life and gain a formal education.

The markets for jungle produce and crafts are generally found at the longhouses in the area. Bazaars are situated in small towns and large villages, such as Marudi, Bario and Lawas. Traders and middlemen are also found here, buying items for sale in the cities, especially scented Aloes wood. Aloes is sought after for export, as its main use is in perfumes and incense and is held in especial high regard in the Middle-East.

The Penan material culture I particularly studied came from Long Main a small village with a population of approximately 72, the lifestyles of the people here fall into all of the above categories.

The housing is made up of a longhouse, and several small family dwellings. Surrounding these homes are gardens and fishponds. The padi fields are found close by and are farmed using wet padi methods. The village is situated close to an un-navigable river from which drinking water is available.

During my stay here a hydroelectric system was installed, but the villagers decided to restrict its use to between the hours of 7.00 - 10.30 pm, other times could be requested when required. An emergency helipad has also recently been located here, but travel is generally limited to walking.

When trips to town are necessary they use the rural air service at Lg. Lellang. Many of the people supplement their incomes by occasionally working on nearby Kelabit farms and by producing baskets and bracelets. Both men and women produce artefacts for sale, men making a particular style of bracelet called a *jong* and collecting the rattan from the forest.

The other village visited was Long Kramo' a very small community, where hill padi is farmed. Here the Penan live in family dwellings close to a single Kelabit family. A walk of several hours is now required for them to reach Lg. Lellang. Until recently a logging road existed, but it has fallen into disrepair and is no longer passable. No electricity had been installed at the time of my visit.

### **Communities in the Lawas Area**

#### **The Lun Bawang**

The Lun Bawang are similar to the Kelabit, their close neighbours, with whom they share similarities of language and tradition, although they are distinct peoples.



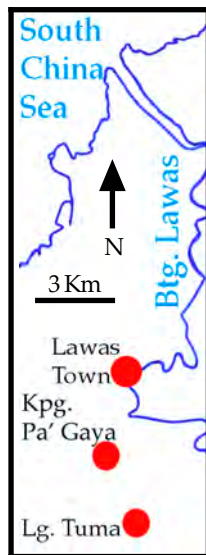


Fig.2.9. Lawas  
(Research Area 6.)

The Lun Bawang are found in the 5th division, originally living in the highland country around the river valleys of the Trusan, Lawas and Limbang and their tributaries, but now also living in sizeable communities in and around Lawas and Limbang towns. Lun Bawang can be found across the state border in Sabah, where they are known as Murut, (a term also used by some Lun Bawang in Sarawak); and across the international borders of Kalimantan and Brunei (pers. com. Seluma Taie 2004).

Their staple food, rice, is produced by both the wet and hill padi methods in farms where a number of other foodstuffs are cultivated. Like other Orang Ulu groups, these farms are frequently situated quite a distance from the village and so people are often found living for considerable lengths of time outside the community. Fruit gardens are sited close to the longhouse. Today the Lun Bawang have the option to live in longhouses or in single family dwellings when they are in the village. In the past the longhouse was used for security and defence (Deegan - 1974:230/6), continuing 'In earlier times in some areas, there was no distinction between temporary and permanent residence. Only one longhouse was built, but designed to last three to five years while the area around it was farmed. In such buildings, the construction was intermediate between the permanent and the temporary structure.'(1974:240 -1)

The Lun Bawang, by the early twentieth century, had a reputation with the government of being particularly heavy drinkers and it seems that nothing was to be done to prevent their extinction according to Southwell a Christian missionary from Australia who says that in October 1933 the then Resident of the 4 & 5 Miri Division, Mr J.B. Archer said to him that 'The Murut are alcoholics, dying out...' Its no use talking to them.' He goes on to state that 'The Raja... took the pessimistic view that with the high death rate of the Muruts at

that time, in a few decades they would become extinct and other ethnic groups would occupy the land.’ (Southwell - 1999:83 & 85).

Christianity arrived with the Lun Bawang in 1929, the Borneo Evangelical Mission having been set up in the August of the previous year in Melbourne, Australia. The missionaries were not allowed to enter into the Trusan area, according to C. Hudson Southwell, the reason for this being the views of the Raja stated above. Therefore the missionaries remained on the coast in the Lawas and Limbang town areas. He said that in the beginning ‘People started to visit us out of curiosity. Then, as they realised that we could assist them medically, they came asking for help, for at that time there were no government clinics anywhere in the interior.’(Southwell 1999:37). It took until 1940 for them to get their first actual conversion. The temperance views put to the Lun Bawang by the missionaries is said by many to be the turning point for them. They are now a successful, thriving, well educated people but there has been an erosion of their traditional culture because of this which the Lun Bawang are starting to address.

#### Fieldwork Interactions

I was introduced to Litad Selutan by contacts I had in the District office, she has a shop, selling craft objects, which is a general meeting place for many of the women. Near to here is the shop owned by Seluma Taie, who makes baskets when she is not serving customers. My time was spent with these two women and visiting other makers who were introduced to me by Litad. Whilst here I stayed in the nearby hotel as it was convenient.

The people whom I visited, live in Lawas town or nearby in small villages. There are regular bus services between these communities and also to Miri, Kota Kinabalu, the state capital of Sabah and Bandar Seri Begawan, capital of Brunei Darussalam. They have mains electricity, access to television, telephone and internet.

## Communities in the Loagan Bunut Area

### The Berawan Community

The Berawan are found in the area of the Baram, Tinjar and Tutoh (research area 8, fig. 2.1.) rivers and around Loagan Bunut a freshwater lake with tributaries to the Baram and Tinjar. They are a non-stratified group, who have adherents to the early religion *Luná*, its recent offshoot Bungan Cult and Christianity.<sup>7</sup> In some cases the Berawan practice secondary burial of their dead - *nulang* (Metcalf - 1991:20). They use both longhouses and family unit dwellings today, although historically they were longhouse dwellers with the exception mentioned below.

Fishing is a very important part of the lives of many Berawan, especially those living in the Loagan Bunut area, where some families heavily involved in fishing can be found living in homes built on rafts floating on the lake. 'The *selambau* technique has been used for centuries and has enabled the Berawan fisherman to manage the lake's fish resources sustainably for many generations. Other, more common techniques employ casting nets and nets suspended from poles driven into the lake bottom. fish are kept alive in large submerged bamboo cages called *kurungan*.'(Hazebroek & Abang Kashim 2001:196/7).

Other methods of fishing are also carried out, the use of both cast nets and gill nets was seen on my recent visit. When gill nets are put out overnight someone has to stay in a boat with them, lighting the area with a lantern, this keeps the crocodiles away, preventing them getting tangled in the nets and destroying them with their struggles to get free (pers. com. Meran Surang 2003). Previously fishing was one method for the Berawan to earn money, as they could float their *kurungan* to markets such as Marudi by making a raft from the

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<sup>7</sup> For further information see Metcalf - Who are the Berawan? - Ethnic Classification and the Distribution of Secondary Treatment of the Dead in Central North Borneo - 1976:87/9.

cages; thus keeping the fish within them in the river and alive so they arrived at market fresh for sale.

Farming is the main form of sustenance for most of the Berawan. Like other Orang Ulu the slash and burn methods of farming are employed for hill padi production. Vegetables and fruits are also grown as well as collected. Their implements used in fishing are the objects that particularly stand out as being different to those used by other Orang Ulu groups and so are the ones I note in this paper.

Travel is taken along the logging roads in the area, or by river in small boats, or, for those near Loagan Bunut, by bus from Lapok. Most families now have electricity provided by generators and some television, using satellite equipment.

#### Fieldwork Interactions

I travelled to Loagan Bunut with friends from the Wildlife Conservation Society, staying in a small hostel belonging to Meran Surang. He took us out on to the lake in a boat and explained the fishing both then and in the evenings during our stay.

### **Communities in the Mulu Area**

#### **The Penan**

The Penan Communities found here live in much the same way as those in the Sungai Akah area, although I found that there were different variations to their modern woven objects.

Although the Mulu area is a National Park, the Penan living in the vicinity are allowed to hunt and gather forest produce within the parks boundaries.

### Fieldwork Interactions

Mulu was only a very short trip of a few hours to look at the modern variations found in the work of the Penan and so no accommodation was necessary.

# Preparatory Knowledge

**Fig.3.1 . TABLE OF MATERIALS**

BOTANICAL NAME / GENUS	ENGLISH NAME	KENYAH BADENG	KELABIT	LUN BAWANG	PENAN	OTHERS
Antaris toxicaria, Artocarpus elastica, Artocarpus kunstleri	barkcloth	sapai	talun	talun	talun	---
Arecaceae	rattan	wei	wei	wei	wai	gwei [Sk.]
Bambusa	bamboo	bulok	buluh	bulu', puren (sm)	bolo	buluk [P.B.], budou [Kj.], bidu, latung (lg.) [U.B.K.]
Cyperaceae	none known	tehka	sier	sier (O section), kerubet (Δ section)	sier	sier [U.B.K.]
Dicranopterix linearis	none known	namam	resam	leputung	resam, kevalan juhit, kevalan irop	lekou, galeung [Kj.]
Donax arunda	bemban batu / bukit	lemetung	sebilut	babelit	bevan	bivan [Kj. & Sk.] jelamatung [U.B.K.]
Hornstedtia scyphifera	none known	tepo', tetek	layun/ubud buan	layun	umbut	---
Licuala valida	none known	sang	elat	ilad	sang	lelap [P.B.], se'ang [Kj.], tampung da'a [U.B.K.]
Metroxylon sagu, Eugenia utilis	sago	napu	balau	kebieh	balau	balong, orok [P.B.]
Salacca vermicularis	none known	---	biré	kelemucan, lebayan	---	---
Pandanus sp	none known	da'a	---	basung	---	---
Pandanus sp.	pandan	da'a	kaber	kaber	ra'a	da'a [Kj.]

## MATERIALS USED AND THEIR PREPARATION

(See DVD)

### Materials

Most of the materials used in the production of utility objects are plant products found growing in close proximity to the various Orang Ulu communities. Depending on the material being collected preparation is either carried out at the collection site, in the village, or sometimes prepared in a combination of the two sites. The choice tends to depend on how many thorns or spines are found on the plant part used; those with spines, such as rattan and pandan, will usually have them removed at the collection site making them easier to carry. Today some of the traditional materials are no longer used; pineapple fibres are frequently mentioned in the literature of the nineteenth and early twentieth century, but no articles using this fibre were in evidence, having been totally replaced by shop bought cotton, nylon and plastic threads. The materials I found now being used are described below and all are still in frequent use. An exception is barkcloth, which is becoming rarer as a fabric, but is still frequently found used as string. New types of material being used and are also discussed.

**Namam** K.B. - *Dicranopteris linearis*<sup>1</sup> - P. - *kevalan juhit*, *kevelan* & *irop*, Kl. - *resam*, Kj. - *lekou* / *galeung*, L.B. - *liputung*.

Namam is a fern found in abundance in the rain forest, around gardens and farms, long lengths of which are cut and taken home by the women, the collectors of this material. In my experience with the Badeng, the woman wanting to make items from *namam* will carry out this collecting, but when she reaches home her friends will join her and help with its preparation and often its manufacturing, as they sit chatting on the veranda. Penan use three very similar, related, ferns, varying slightly in thickness and strength. Saloma Jalong, from Long Main (pers. com. 2005) classified them according to fibre and size: *kevalan* - big, *kevalan juhit* -small and hard, *irop* - soft.

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<sup>1</sup> Identification of the latin, is taken from S. Dunsmore's chapter - Basketry, in Sarawak Cultural Legacy a Living Tradition 1991:193.

The hard outer sheath of the fern is removed by bending the stem until the outer layer shatters and can be pulled away to reveal a soft white pith, which is removed by peeling until the strong flexible core is released. The core ranges in colour from green through brown to black and is on occasion, flecked with white. The outer sheath is very sharp when broken and particular care is taken in the cleaning away of waste to prevent babies and small children swallowing or cutting themselves on the shards. Saloma Jalong (pers. com. 2005) told me that according to Penan tradition 'you can not put *irop* waste on the fire as it will make it rain.'

This material is primarily utilised decoratively for making loops (K.B. - *ulat* - hole) of various sizes, for bracelets (K.B. - *lekok*) and rings (K.B. - *angko*), around *parang* handles and also on occasion as decoration sewn through the weave of baskets. This form of decoration may well have been acquired from the Bidayuh people of Sarawak, who frequently decorate their baskets in this manner. *Namam* is also used in the teaching of *ulat* manufacture, for the production of the rings found around the tops of *blanyat*. The collection of *namam* and the manufacture of *lekok* was the first lesson I ever had with Orang Ulu, taking place at Uma Badeng, Long Geng, as the material was readily available and is considered one of the simpler skills.

**Rattan** - genus - *Arecaceae*. Most groups -Wei, L.B. - *weé*, P. - *wai*, Kj., Sk. - *gwei*.

The type of rattan used is purposely chosen, it is dependent on the object to be made, and its specific uses.

There are several preferred types of rattan used, they are called by the Kenyah Badeng: *Seringan* (*Daemonorops sabut*); *seka* (*Calamus optimus*. P. Wei inang Kl. & L.B. *segak*) and *timai* (*Calamus javensis*<sup>2</sup>), all of these are said to be strong and durable Another rattan used, when others are unavailable is *semoleh*

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<sup>2</sup> Identified from Sirait, 2003:68. This chapter covers: Management, Processing and Uses of Rattan with information on aspects of harvesting.



(*Daemonorops draco*), which is apparently weaker. All of the communities prefer to use *Calamus optimus*, as it is considered the best rattan for the production of baskets, utility and decorative objects, but will resort to the others if necessary. A similar species - *Calamus caesi*us is often confused for *Calamus optimus* (partly due to it being called *rotan sega* in Malay), and although good, cannot be considered the best, it does not have the beautiful golden colouration of *Calamus optimus*. A fifth variety, *telong*, (*unknown*) was used previously, but is said to have already been finished in the Sungai Asap/Koyan area, this is due to pressures of population there. The Kelabit also use varieties of *wei potong* and *nani* (*unknown*) for large *bu'an* style baskets, both of these species grow as single stemmed plants; unlike the other identified species above which are multi stemmed (Lawai Tu'uh pers. com. 2005).

The preferred small rattan used by most of the peoples including the Kenyah Badeng, is a single stemmed rattan, known as *wei mas* or *sega mas* (*Calamus laevigatus*); it is used for all the smaller, finer baskets and takes colour from dyeing really well. It is naturally shiny, getting shinier with age, it is also very durable, but is found only at high altitudes. The Kelabit use another small rattan, which they call *wei rabun* (*Calamus javensis*) a multi stemmed variety, they use this twisted around itself for strengthening the perimeter of baskets (pers. com. Lawai Tu'uh 2005).

Identification of the various types of rattan used, was carried out using John Dransfield's book *The Rattans of Sarawak* (Kew 1992). Groups of weavers and rattan collectors discussed the various identifying features and habitat, before coming to a firm decision on the particular variety in the book, some varieties could not be identified in this way. Due to the extremely prickly nature of rattan; the fact that in many cases the outer skin easily sloughs away; and that much of the rattan now sourced has to be carried large distances; it was not possible for me obtain a collection of samples, as the material is cleaned near to its growth area.

It is the Bhuket men, according to Heppell (no date:25) who:

‘go out and collect the rattan. They either go out in groups for a few days or singularly for a day and cut enough rattan for at least one mat. The cut rattan is tied together, a harness is made and the rattan is then dragged straight back to the house or to a perau and thence to the house. All rattan is cut in the field.’

I found this to generally be the case for the rest of the groups I contacted during the course of this study. It is the men that are frequently in the forest for long periods of time, hunting, logging, collecting forest produce and so they are aware of areas where different rattans can be found easily. Sometimes they will collect in the course of their other work and other times they will make a special journey specifically to collect the rattan. I did not find that the task of rattan collecting could solely be attributed to men though, as women will collect usable rattan when they find it, examples of this being: when they are preparing an area of forest ready to make a new farm, journeying through the forest or when they have followed male family members to the logging camps. Collecting is usually for a maker within the family, but frequently excess is being sold to other makers in the vicinity. The rattan I use comes from both the families I lived and socialised closely with and from purchases made from others with excess for sale locally.

In many areas rattan is becoming scarce because of pressures of over collection and logging. Men are having to travel far longer distances to collect it, but slowly people are beginning to cultivate various species, Hanne Christensen (2002:284) cites the example of *Calamus caesius* and the Kelabit of Pa Dalit: ‘A few households have imported it from other areas (Long Peluan) and now cultivate it in the secondary forest.’ From my own experience, the Raja family, Kelabit from Long Lellang have asked Penan friends to collect *Calamus optimus* plants from the forest, to be planted in their garden as an experiment in its cultivation.

Initially, immediately after collection, the spiny outer skin is removed, leaving the shiny inner skin. Depending on the type of rattan, the ease in which this can be accomplished varies, according to Lawai Tu'uh (pers. com. 2005). In some cases the outer skin falls away naturally, in others the stem has to be hit with a stick to loosen it. Others have to be bent, in order to split the skin, for example *wei segak*.

Rattan comes in a variety of thickness' and is regularly notched along its entire length, these notches are scraped down to the same level as the surrounding material using a knife, before any other work takes place. Where rattan is to be used whole, i.e. for the production of a *keba kaleng* the thickness is important, but for articles made up of strips, a thick rattan can be cut down into a number of slices. To form strips, the rattan, is firstly, cut to the required length. It is then separated lengthways across its central axis into as many divisions as required. A knife (*pueh* - K.B.), is placed into one end of the rattan, pushed in a short way, and the rattan bent causing it to start to split, these two sides are then bent in opposite directions causing the split to travel evenly along the entire length of the rattan, separating it into two. If the two sections are not bent evenly the split veers to one side and the pieces are not even along their length. Each piece is then split again in the same way, as many times as required, forming sliced shaped sections (fig. 3:2). The point of this slice is then cut off down its entire length, followed by both edges, again using the *pueh*; to form a cross-section showing three flat sides and one slightly domed one (fig. 3:3) with the rattan skin still in place; this skin is almost always retained and appears to add strength to the material, as well as being aesthetically pleasing.

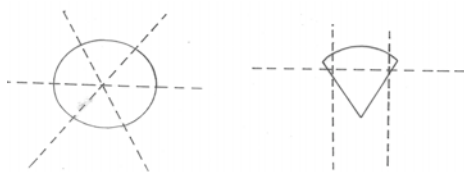


Fig. 3:2. Initial cross cuts and trimming.



Fig. 3:3. Final strand shape in cross-section.

Once initial trimming has been carried out, two different methods are

employed to shave the strip to the required size and width. The Penan, Penan Talun and Bhuket continue to use the *pueh* for this, by holding both it and the rattan tightly and then pulling the rattan through, between the blade and their fingers, shaving off the excess. The amount removed is dependent on the pressure and angle of the blade. This is by no means as easy as they make it look, I found that prolonged shaving of rattan produced a problem similar to 'white finger' when the fingers go numb from the constant vibrations formed by the rattan passing through them, I had loss of feeling for a week at one stage. Keeping the dimensions, either the width or depth of the cut, is also extraordinarily difficult and there is a tendency in those who have not had much practice, my self included, to split or to cut through the rattan.

Processing the rattan for weaving using the knife method is generally carried out by women, but if rattan is to be used for tying, in the manufacture of tools, fish traps or other objects of male manufacture the men will shave it to size.

The Kenyah and Kenyah Badeng use a *janggalat* (see tools) to carry out the rattan shaving process. Using a *janggalat* makes the work far easier and guarantees that all the strands are the same size. A knife is used when only a small amount is required, or if a *janggalat* is not available. Although it is usual to find women shaving rattan for weaving, the men will frequently help them, together with preparing rattan for their own projects. In rare cases the rattan is shaved into round strips without skin, a form of *janggalat* is again used, this rattan is used in the production of such items as the Kenyah Badeng *bakun* and *keratang* and Lun Bawang *berkang*.

Where whole section rattan is required to make a rim, ring or is needed to be bent in any way, it has to be used when it is still green as this helps to prevent it from splitting. Prepared rattan is kept wrapped in fabric, usually an old sarong, this is necessary to prevent light damage as many of the natural colours are fugitive.

*Tetek & Tepo'*, K.B. - *Hornstedtia scyphifera* (Dunsmore 1991:193) P. -umbut, Kl., L.B. - *layun*).

These two plants are very similar in nature, but the one preferred for use in weaving is *tetek*, as it is the longest of the two. They are tall, edible plants (a favourite vegetable) with a single stem and foliage only found on the upper portion. All have a very pungent smell, quite acrid, but pleasant. I found this smell to last for almost two years on a sleeping mat I produced in this material. When used as a vegetable the smell remains after cooking .

The plants are found growing close to villages, along paths through the forest and near to farms and gardens. It is predominantly the women who do the collecting for the family, as they will be the ones who utilise it, for weaving and as a foodstuff. The main item produced from *tepo'* is the drying mat.

The plant is cut down at its base, carried home and then dried for a day in the sun, the leaves are then removed. The stem of these plants is built up in layers, and it is these layers that are used for weaving. Where each leaf joins the stem, a small hollow notch can be seen; a loop of thread or plastic is placed under this, then drawn down the length of the stem, cutting off the layer; each leaf being attached to a different layer. This is continued, using each leaf notch, until only the spongy core of the plant remains, to be discarded or cooked. The lengths of plant material are then coiled, against their natural curve, splitting it along its length into thinner sections. The coils are tied and again dried for a twenty-four hour period. Once dry, the coils are untied and hung by one end, overnight to flatten them out. If further thinning is required, a small nick is put through the strip at one end, and a fingernail inserted and pulled along the length.

**Bamboo** - genus *Bambusa*. P. - *bolo*; Kl. - *buluh*; P.B. - *buluk*; L.B. - *bulu'*, *puren* (small); Kj. - *budou*; L.B.K. - *bidu*, *latung* (large); K.B. - *bulok*.

Bamboo is not only found in the forest, but is cultivated in gardens and farms as it is also popularly used as a vegetable. Both men and women collect the stems for use in their object manufacture. In Asap I found that, although there is often difficulty in finding bamboo for craft purposes, it is being cultivated for use as a vegetable.

The bamboo is cut just below each internode, to give a long cylinder sealed at one end. Where the bamboo is to be used as a container, no further preparation needs to take place. If though, it is to be used for weaving it is cut down its length several times to the internode and splayed out before being left to dry in the sun, this is done either at home or on the farm. When dry the lengths of bamboo are pulled apart from the internode and a cut the width of the required strips is made through the skin, at one end. The bamboo is then bent away from this, causing it to split away along the entire length, thus producing the first strip (see fig.3.4).

A second cut can then be placed in the same position as the first, but deeper, taking in a fraction of the skin along each side. The process is repeated which then gives two different types of weaving material, the outer skin and the inner softer core. Green weaving material comes from outer skin areas, fading slowly to a light yellowish beige eventually, this outer material has a very cohesive appearance. The yellow weaving material is produced from the next layer in and has a more grainy appearance, as the inner structure of the bamboo can now be seen.



Fig.3.4. First cut in the bamboo surface, the second is marked by the dotted line.

Bamboo is used to make many types of container. The first cut across the bamboo separating it from the rest of the plant is made just below an internode and the second, below the next internode up. Each internode forms a solid mass across the inside diameter of the bamboo, ostensibly a tube, sealing one end, and making an ideal container. It can be used for carrying water and a whole host of other things. A lid can be quickly be manufactured if required, the edge of the container is first tapered, then another piece of bamboo, again with an internode to seal it, is cut. The inside of the lid is then shaved slightly, to fit it over the container, giving a good fit, keeping it in place and preventing loss of the contents.

It is said by the Kelabit that bamboo has to be collected before the full moon to prevent it from being eaten by insects, if this is not possible then it has to be smoked over the fire, as insects don't like smoke.

**Pandan - *Pandanus*.** Kl. & L.B. *kaber*, Kj. & K.B. - *da'a*, P. - *ra'a*.

This is often grown close to areas of cultivation, where it is easy for women to collect it. It is used occasionally in basketry production, where the object does not have to sustain heavy wear, such as food baskets used in the kitchen, and also as a material for seating mats.

The leaves are cut off just above ground level, then the leaf tips are removed. Pandan is W shaped in cross-section. A piece of string is tensioned between the

fingers or in a forked stick, placed at one end, by the edge, then dragged along the length of the leaf to remove the spines on each edge, and on either side of the mid rib. The process can then be repeated to cut the leaf into the weaving widths required. This preparation takes place where the pandan grows.

Strands can be woven whilst still fresh and green, or dried. If the rattan is green though, it has to be rolled to squash it and make it flat. Even when woven the strands remain slightly spongy, giving insulation, which is especially beneficial in such items as *ah'ap*, a Kelabit container for storing cooked rice.

*Sier* - genus *Cyperaceae*<sup>3</sup> . Kl. U.B.K. when in round section LB. (L.B. call the triangular section *kerubet*) K.B. - *tehka* .

This reed comes in three types, two with a round section *Machaerina rubiginosa* which is longest and *Fimbristylis globulos* the strongest, and also another type with a triangular section *Schoenplectus mucronatus*, also strong (Christensen 2002:297/8). It is grown specifically for weaving. It is harvested by the women by cutting toward the base and just below the flower, where present, giving lengths of approximately three feet. It is pressed flat to make it ready for weaving. If the stems have dried out, they can still be used, but need to be rewetted as they become brittle on drying.

*Sier* produces a very soft fabric often desired for mats, which although not strong, feel slightly cushioned and therefore comfortable. Due to the short lengths involved, an area of visible overlap is always present. Mats are not its only use, and I have seen it used to make small *barang* (sacks), amongst other things. It also takes dye very well and matting is often coloured with shop bought dyes. Christensen states that these plant fibres cannot be dried in open sunlight, but in a darkened area to prevent the strands becoming brittle.

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<sup>3</sup> Identification, is taken from H. Christensen's book - *Ethnobotany of the Iban and the Kelabit* 2002 :297/8 & 287/8.



**Bemban batu/bukit** - *Donax arunda*. - Kl. - *sebilit*, U.B.K. - *jelamatung*, Kj. - *bai / bivan*, Sk. - *bivan*, K.B. - *lemetung*, L.B. - *babelit*.

This material is often grown by the Kelabit near their farms specifically for use in weaving and so is usually prepared there. Men and women cut the bemban, though it is more usual for the women to prepare it ready for weaving.

The stems are cut down when they are still young, with only three leaves, any more than this and it is already too mature to weave. It is chopped into the lengths required, then split into sections and extraneous material removed from the outside. It is then processed in the same way as bamboo, this process is carried out when it is still green and fresh. Only the skin cut ( described in the section on bamboo) is made, the rest being discarded. All cuts are carried out in a downward direction, to prevent splitting. It is woven when still green and slowly fades on drying to a silver colour. Often, each strip has a small amount of the skin shaved off along its apex, giving a striped effect on weaving.

**Sang** - *Licuala valida*. K.B. (L.B. *ilad*; Kl - *elat*; P.B. - *lelap* Kj. - *se'ang* U.B.K. - *tapung da'a*)

Found throughout the forest, this leaf is cut for production by the women, although men will take it for use as impromptu water proofing.

The leaf of this plant is used in two ways in the production of various objects. When newly cut, for fans and when dry, for sunhats raincoats, or objects requiring a large heterogeneous surface. The leaf grows in long triangular fingers attached to a main stem, each finger having several ribs travelling from the stem to its end. If a fan is to be produced, a small stem is chosen, with the leaf fingers allowed to remain in position, radiating from the stem. Whilst still green these fingers are woven through one another, crushing them lengthways. On completion the fan is immediately ready for use, drying out

over time to a brown colour. Where items such as sunhats, rainwear and handbags are to be made, a large leaf is chosen. The fingers are removed from the stem and dried flat, to produce the greatest surface area possible. The colour changes from green to beige during the drying process. These fingers can be sewn together, to form a bigger piece of material, ready for use. Frequently, *sang* is dried and stored until needed.

**Sago** - *Metroxylon sagu*, *Eugeissona utilis*<sup>4</sup> . Cultivated - Kl., P. - *balau*, L.B. - *kebieh*, P.B. - *balong*. Wild - K.B. - *napu*, Kl. - *kenangan*, P. - *uvut*.

Sago is used in a great many ways, the most important being as a staple food for the Penan and a dietary addition for a great many others. According to Merawin (1994:17) it was the staple for all the indigenous people prior to rice. Every part of the sago palm can be used in some way, examples of this are: tannins for dyeing; stiff fibres from the roots, for fish hooks; panelling materials for building and backing supports for baby carriers, from the bark; thatching, from the leaves; and blowpipe darts, from the stems (Merawin 1994:20-3) (pers. com. Catherine Lajo 2002, Wan Bakun 2003, Jalong 2003, Lawai Tu'uh 2003). It is quite possibly the most adaptable material found, but not the most used. Although all groups use it as a material to a degree, it is the Penan who make the most of its versatility, often siting their temporary villages near to a sago stand and moving on when the sago had been used as fully as possible whilst allowing enough of the plant to remain for rejuvenation.

In all communities men and women both collected products of the sago palm; usually, although not exclusively, those parts they were most likely to use themselves.

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<sup>4</sup> Beccari describes this in *Wanderings in the Great Forests of Borneo* 1904 :149 & 154 'It is a wild species which produces sago of good quality,' and as 'a palm which appears to be very abundant in the interior of Borneo.'

**Basung** - L.B. (*Pandanus sp.*<sup>5</sup>). K.B. - *da'a*.

This plant although very distinctive only seems to be known to a few of the groups I studied, some Penan saying they had never come across it before, although there are several types of *basung*, this is perhaps because it only grows in lowland rainforest areas?

It is the Lun Bawang who particularly seem to make use of *basung*, using it in two ways. The first being as a weaving material. The leaves, which can be green or variegated, are long (approx. 1m) and thin (2.5 cm), and very pliant. It is not thought to be particularly strong and its use in weaving is kept to a minimum.

It is the root of this plant that the Lun Bawang mainly choose to use. Roots develop from the main stem of the plant above ground level as far up as the leaves (the plant being several metres in height), they then grow downwards into the ground and can be 10 metres in length. They are removed from the tree and the skin, which is the useable part, is cut off along its length. It is split and then processed by pulling it through holes punched in a tin lid (*meru*) to give it a uniform, round section. Its main use is on the outside of the sunhats (see *rong* chapter 11). Apparently, when the wild variety is used these root sections often turn brown.

**Biré** - Kl. (*Salacca vermicularis*<sup>6</sup>). L.B. - *kelemucan/lebayan*.

It was only the spines/thorns of this plant that I saw used in Orang Ulu areas, for the production of fish hooks by the men. According to Chin (1985:108) other parts of the plant can also be used, speaking of 'a rod, made from the flexible end of the rachis of a *Salacca* palm' used by the Kenyah for fishing.

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<sup>5</sup> Identified by Dr. W. Baker of the Royal Botanical Gardens, Kew 'The variegated leaves indicate that it is a horticultural variant..... Taxonomy of pandans is poorly known..... The genus is highly diverse in SE Asia' (pers. com. 2005)

<sup>6</sup> Identified by Dr. W. Baker & Dr. J. Dransfield of the Royal Botanical Gardens, Kew (pers. com. 2005/6).

**Barkcloth** - *various*. Kl., P., L.B. - *talun*, K.B. - *sapai*

All of the groups produced barkcloth at one time, but today it is almost entirely made by the Lun Bawang. It is now manufactured by men and is particularly heavy work in the initial stages of production.

The bark is taken from the tree known to the Lun Bawang as *kayu talun* a type of fig, commonly known as the *Ipoh* - *Antiaris toxicaria*, although according to Hose and McDougall (1912 (i):250) *Artocarpus elastica* can also be used. Labo Tuie says that the one with round leaves does not produce such good cloth (pers. com. 2004), Lasimbang & Moo-Tan (1997:55) also describe the *puputal* tree *Artocarpus Kunstleri* in their article on a barkcloth vest from the Murut of Sabah. Labo Tuie, originally from Lg. Semadoh, but now living in Lg. Tuma near Lawas is one of the few people still making barkcloth for hats and waistcoats traditionally worn by the Lun Bawang. He also makes other goods for sale now, such as pencil cases, coin purses etc. these are sold through various handicraft and souvenir outlets. Labo Tuie selects a tree, growing wild, and says it is best to collect the wood at full moon, as at other times the bark does not pull to shape as easily. He also states that the location where the tree grows causes colour variation in the bark, possibly due to differences in soil nutrients. The tree is chosen according to the use to which the barkcloth is to be put, e.g. a small tree is used for string production as the bark of small trees is softer. Trees of all sizes have been used for making clothing. The tree is chopped down and the trunk below the branch line is cut into manoeuvrable lengths.

The wood is taken to a small shelter built by Labo on the hillside, where he lights a fire from scrap wood, this fire must be allowed to burn hot. He scores a line down one side of the length of stem and places it in the fire turning it regularly, until it is charred evenly along its entire surface, but not burnt. When this has taken place the bark can be removed easily from the sap wood along

the cut line. A second cut line is made through the outer bark, care being taken not to cut all the way through. From this the inner and outer bark can be separated from each other and the outer bark discarded. The inner bark is beaten over a log on the floor, giving support and resistance. Small paddles called *tutuk talun* are used for this process, the first used has a crosshatched surface and spreads and softens the bark fibres. If required a flat paddle of the same name is used to smooth the surface. Some people prefer the crosshatch pattern left as a decorative element. If the bark is hammered for too long or with too much force, the fibres will separate and break.

The cloth is still very wet from tree sap and so has to be dried, if the weather is hot and dry this takes a single day. As drying takes place the colour changes from cream to a pinkish beige. The fabric is two sided, one still quite rough, the other smooth; the smooth side is used outermost (this side is outermost on the tree when growing), in clothing the inside is often lined. 'After beating it is sometimes now put through the same engine used in the preparation of rubber sheets, as this gives it an even flatness and the thickness can be controlled, also a pattern can be imprinted onto the surface. Previously barkcloth was flattened by placing under a sleeping mat for some time'. (pers. com. Labo Tuie (L.B.) 2004)

According to Labo Tuie (2004) barkcloth can be made whiter by washing in 'Omo' or lime juice and darker by soaking in plain water, the longer the soaking is carried out the darker it becomes. It is washable but care needs to be taken when drying.

Often to strengthen this fabric, it is stitched crossways, with a simple running stitch at gaps of approximately 6 cm intervals, in the past this would have been carried out using pineapple fibre, but now cotton is used,<sup>7</sup> this can be seen on many of the Lun Bawang and Kelabit waistcoats found in Muzium Sarawak

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<sup>7</sup> Further details on stitching and strengthening can be found in Roth's The Natives of British North Borneo (vols. 1 & 2) 1896:38.

(see pl.3.17. & 28.).

It appears that the methods used in the manufacture of barkcloth have changed little in 150 years. Roth describes the production (1896:36/7):

‘Among the Muruts the bark is peeled off a tree in broad strips and is very united and flexible: it is then hammered all over with a heavy wooden instrument, which has a flat surface on one side cut in deep cross lines like a file; this breaks up the harder tissues of the bark and reduces it to a very pliant, though by no means united texture. The bark being full of rents and holes, this difficulty is overcome by traverse darning..... The thread is made from pineapple leaves.’

It seems that the manufacturing seen by Roth was carried out by someone with little skill compared to Labo Tuie using the same methods, as there were no rents or holes in the barkcloth he manufactured or had ready for sale, even prior to stitching.

Edric Ong (1991:57) talks not only about the darning, but also patination: ‘The Orang Ulu particularly the Kayans and Lun Bawang, apply transverse darning on the fibrous bark of the *ipoh* tree (*Antiaris toxicaria*) to strengthen the pliant but delicate material using a bone or thorn needle and pineapple or bark thread (*tek bala*) as thread. Designs are then worked into the surface of the jackets or stencilled on, using paint or natural dye.’

Jackets belonging to the Kelabit found at Muzium Sarawak show the entire surface of the barkcloth covered in horizontal lines of beadwork (see pl.3.28.).

## **Wood**

A large number of tree species are used by the communities. Over time the different wood properties have been noted and the most appropriate timber is chosen for the required task, an example would be the use of *bilian* to make

paddles, because it floats if lost overboard and can, therefore, be retrieved. Other choices would be made based on woods which do not suffer badly from insect damage; woods that repel rot; are light weight or burn easily, all very use dependent reasons.

Today trees are frequently logged using a chain saw, but previously an axe or *parang* would have been used and this is still the case where necessity prevails. Before sawmills, planking would have been prepared using an adze. This however, no longer appears to be the case in any of the villages visited although in the older parts of some houses evidence can still be found in planking. General carving is carried out with the various knives available.

Wood is also used in other ways, as an ingredient for some dyes; for waterproof coatings; various saps are used as resin; occasionally wood fibres are used to make strings for musical instruments; this by no means covers its wide ranging applications.

## **Plastic**

This is a relatively new material, and is brought into the villages from the towns or by itinerant salesmen. The main type of plastic used in the production of woven objects within these communities is the tape used by manufacturers to secure cardboard boxes for transportation. The thickness of this varies and sometimes has to be split to thin it, especially where it is used to form decorative elements separate from the main weave. The variety of colour is far larger than those found in the natural dyes of the area.

The plastic strip weaves in exactly the same way as strips of rattan, and so the same objects can be made using the same techniques. The baskets are very light, hard wearing and waterproof, which is seen as a bonus in the climate of the region, particularly with long distances often travelled on foot in the rain. It

is also inedible to the many insects that attack natural materials. The plastic is used to form modern shopping bags, which are all the rage and are in demand from people as far away as Singapore. This allows small industries to grow up in the remoter areas.

The other type of plastic found in use, is a coloured string, this is often pulled apart into thinner sections and used for stitching sunhats and rain wear. It is also made into tassels and pom-poms for the decoration of a variety of hats. Both types of plastic are used as a general binding material.

(At no time during my research did I see leather being used in manufacture, although skins are available and can be seen as decoration on walls or as part of the traditional attire, worn as a cloak.)



## The Manufacture of Tools Used in Craftwork

Although tools are often not produced from plant materials, certain tools do have components produced from these materials. They are integral to this study as they form an important feature of many of the manufacturing processes, some of which could not take place without their use.

Tools are generally manufactured locally at the longhouse where they are used. Usually one person will produce several of the same items, and sell on the extra, to friends and family. However, in the case of the various types of knives, these can, often, also be purchased in the local towns and villages, though they still tend to be locally made or bartered in nearby communities. Saloma Jalong, talking about the manufacture of *parang* states that 'not all the men have the talent or skill or interest for the craft' (pers. com. 2005), which is why it is the specialist craft of a few, rather than being a task carried out by a member of each family. Wooden tools are carved at home by one of the male members of the family, they are produced from hard wood and carved by whittling the wood to shape using a *pueh* style knife.

Manufacturing of metal tools within the longhouse is often carried out with minimal equipment from pieces of scrap metal scavenged from a variety of sources.

At Long Geng, Asang Lawai has set up a forge, with a hearth positioned underneath his rice store, to keep him dry when its raining. Although it looks like a very basic set up, the objects produced are of a high standard. The forge itself consists of a rough stone hearth at ground level, with an air pipe (*batang posan*) connected to it. This leads to an air pump (*opa posan/ bayu*), which is generated by a hand crank. The fuel used for the fire is local hardwood (*kayu entuk*). The anvil is made from an old iron earth breaking head (*teranan*), embedded into the ground to prevent it from moving around. The tools used

are two shop bought engineering hammers of about one and two kilos in weight and an home made axe. Instead of the usual tongs the metal, to be worked, is pushed into a piece of hard wood. This prevents the necessity of handling very hot metal. A water trough (*tan padem*) is also located nearby, for quenching the metal, it is produced from a log hollowed into a U shaped channel, with a plank nailed onto each end, to seal it.

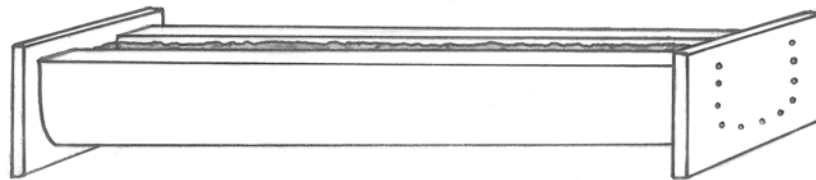


Fig.3.5. Wooden water trough.

To make the blades the scrap metal is heated in the hearth until red hot and hammered to shape on the anvil, with regular reheating (annealing) to keep the metal in a workable state. The final shaping is then carried out by filing using a heavy four cross file (bastard file). The metal is then tempered to straw or blue by heating and quenching in water, to harden the blade for the tasks for which it is required. Where a very sharp edge is needed, for example on a knife or axe, the edge is sharpened on local stones of varying grades of refinement, these are wetted and the metal rubbed against them, starting with the roughest and proceeding to the smoothest. These blades are then attached to a handle made from local hardwood. A hole is first bored in the handle and the tang of the blade hammered into it. In some cases the join is then sealed using dammar (*tekipai*), which, although it is sometimes collected, is more usually bought from the Penan. A ferrule is also usually found on this joint, made of either metal, wire or rattan, it secures the handle in place over the tang. Where rattan or wire is used, it is often decoratively woven or knotted, women often make these ferrule ties to help the smith, who is usually a family member. This handle is generally carved to form a pommel end on the grip, widening on the underside to prevent it slipping from the hand when in use. Other handles are made from the crook between two branches, again held onto the knife tang by dammar

and/or a ferrule. The wood frequently used is known to the Badeng as *saup*.

**Knives** K.B. - *pueh*, Kl. - *yu* (Janowski - *io* 2003.26) Kj. - *kree*, P. - *penat*, *nahat*, L.B. - *yu'u* (See appendix 6, MDB 06 Durham University Collection)

(i) The *pueh* - is a long handled knife, with a relatively short, curved blade. The handle - *saup*, is usually made from a single piece of wood, the length of the forearm. The blade is made of scrap steel, such as that used to reinforce concrete or as brake plates. These blades are made within the community, again smithed on a simple forge.

Once the blade shape has been formed, it is filed and the tang shaped, it is then put back into the hearth reheated and blued.

The tang is embedded into a bore hole in the handle; this hole is often bored using the tang itself, by using a rapid spinning motion on the handle, abrading out the inner wood. The blade must be securely held in or between something to perform this, preventing lacerations to the hands. Once the hole has been produced any shaping required on the handle is completed.

The tang is then put into place and sealed in using dammar resin in most cases, but the Lun Bawang use a resin from insects - *anget*, this resin is called *perianget* and is similar to dammar, both are heated to soften and mould.

In some *pueh* a ferrule is also attached to help hold the blade in place. The other choice is to cut a groove around this end of the handle and plait a piece of rattan tightly into this. In many cases, the handle is delicately carved. (The *pueh* seen in the video was given to me by Asang Lawai for my craftwork and hasn't needed to be sharpened in four years, as it still has a razor edge.)

This type of knife is used by both sexes for almost every type of task, even

being used as a basic drill by spinning the handle very fast between both hands. Upper Baram Penan strip all their rattan using only this knife and most groups either use, or will revert to this method if no other is available (see fig. 3.6).



Fig.3.6. A *pueh*.

A small sheath is often produced from a piece of sago bark shaped and folded in half, it is then sewn along one edge and in many cases attached to the back of a *parang* sheath, as the two knives are often used in conjunction with each other.

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(ii) The *bai'ng* and *parang* (K.B.) Kj. - *edeung*, P. - *pueh*, L.B. - *karit* are machete type knives, with very long blades and short handles (L.B. - *tunan*). They are used for hewing wood and cutting plants. The only difference between the two is that the *ba'ing* is slightly shorter. (see fig.3.7) (Janowski 2003:38)

\*\*\*\*\*

(iii) Small sheaths - *sua* (K.B.) and long sheaths - *bureng* (K.B.) L.B. - *binan* are carved in two halves. They are entirely shaped using a *pueh*. The outer edges are gently smoothed round and the inside hollowed out to fit the shape of the blade. This is carried out by cutting crosshatches into the surface of the wood and then scraping away this wood to form the recess. Channels are cut into the outer surface of the front half of the sheath and also into the edges of the back section. A rattan binding to hold the two sections together is tightly, but decoratively woven into these channels.

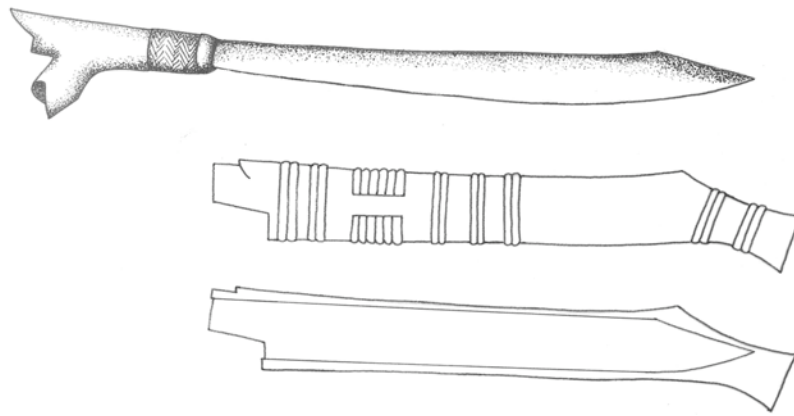


Fig. 3.7. *Parang*, showing the sheath and its inner recess.

### Other forms of blade

(i) The *janggal* (K.B., Kj.)Kl. - *prue* is the alternative method used to the *pueh* for shaving rattan, it is the one usually chosen by the Kenyah Badeng, and uses two differing types of blade. The first thins the rattan, by pulling the flat side across a block of wood with a groove in it and a blade embedded across this groove. The skin side of the rattan being placed downwards, thus thinning the strip from the inside.

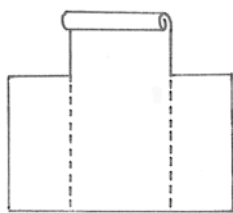


Fig.3.8. The Blade.

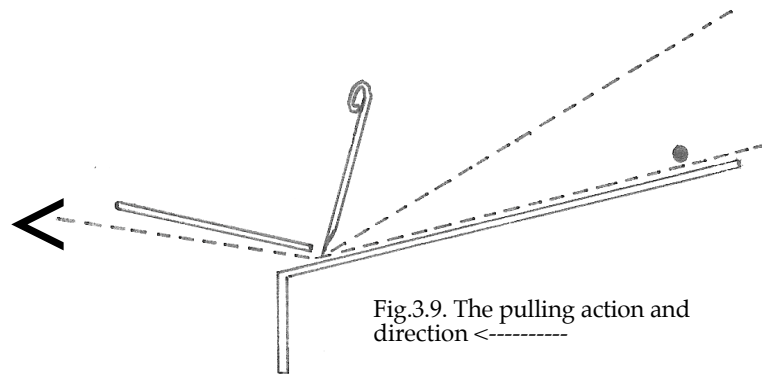


Fig.3.9. The pulling action and direction <-----

The amount removed depends on the angle the rattan is held at as it is pulled past the blade.

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(ii) The sides are then shaved by pulling them between two shear blades embedded into a block of wood.

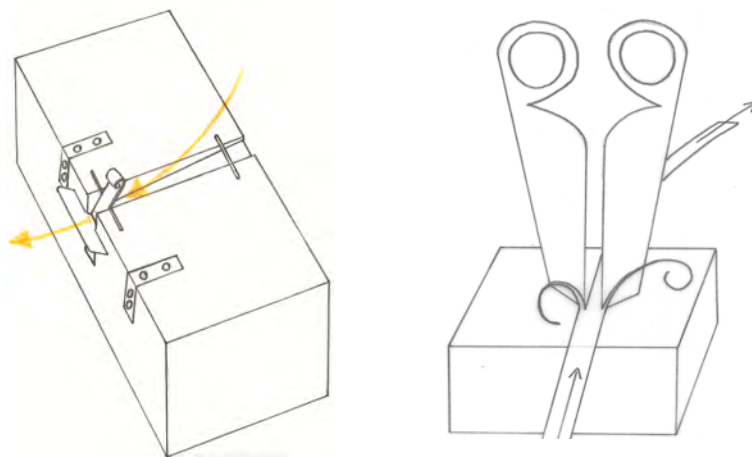


Fig.3.10. The two main types of *janggat*.

The width is altered by moving the shear blades closer or further apart, this ensures an even width along the entire length. Both of these shaving tools go under the name *janggat*. To produce this same evenness with a *pueh* takes a lot of practice. the Kenyah Badeng do have this skill and use it when a *janggat* is not available.

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(iii) A third variant of the *janggat* (L.B. - *meru*, P. - *megat*) is produced by punching round holes into the lid of a tin with a nail, the sharp edges formed shave the rattan to shape as it is drawn through. It goes by two names, *pejat* and *mejat* by the Penan.

### Sharpening stones

These are basically flat, river stones of varying coarseness, the smoothest being quite rare and therefore kept carefully. Small sharpening stones are carried attached to a *parang* by a hole and a piece of string, for use when ever needed. Others are kept in the house, for general sharpening by everyone, and for tool making.

### **Other tools (used in the weaving process)**

The *solat* (K.B., Kj - *nyvan*, P - *sulat*, Kl. & L.B. - *wat*), is a long, thin, frequently steel spike, with a pointed end, like an awl, (sometimes a pressure pump from an oil lamp is used to make these).

The Penan *sulat* can be made from many materials including bone, usually from a monkeys forearm (P. - *sulat tulang*), but can also be produced from fire wood when nothing else is available, this is carved to shape, then heated, which gives it extra strength.

The *solat* is used for piercing holes into the fabric of the weave, to attach other elements, for example an edging of rattan, legs or loops for handles. Variations on the shape include a flattening of the point and a slight curve. Depending on the owners preference, the *solat* is sometimes found in a wooden handle.

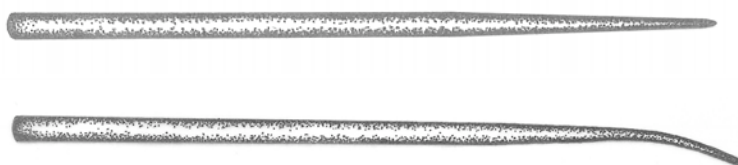


Fig.3.11. Two types of *solat*.

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The *bulu setung* (K.B.)Kl. - *bulu terutong*, L.B. - *buluh terutong*, P. - *sulat tetong*, Kj. - *bulyow tetuong* is a porcupine quill and is used for lifting the weave, when another strip is required to pass through the same gap as a previous strand, i.e.: when an edge is being finished. The quill can easily be sharpened when required.

\*\*\*\*\*

### **Weave Pulls and Hammers**

(i) The *tapek* (K.B.) is made by hammering a six inch nail into a wooden handle. This is then used for closing the weave, removing gaps and ensuring that the

structure is tightly woven; either by hooking the head of the nail under the weave, and pulling it into place, or by placing the head of the nail against the edge of the strips and hammering them into position using a block of wood as a mallet. If the weave is too stiff to reposition without damage, it is wetted, which gives it more flexibility.

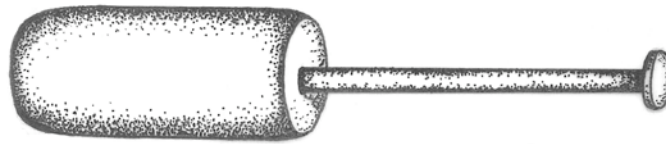


Fig.3.12. *Tapek*.

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(ii) The Kejaman use a slightly different tool for this same process, *kegwit*, a metal shaft with a hooked end, to pull the weave together (see fig. 3.13) and also a small wooden mallet and wooden stake to hammer the material close, These two go under the same name, a *pukpuak* as they are two components of the same object.



Fig.3.13. *Kegwit*.

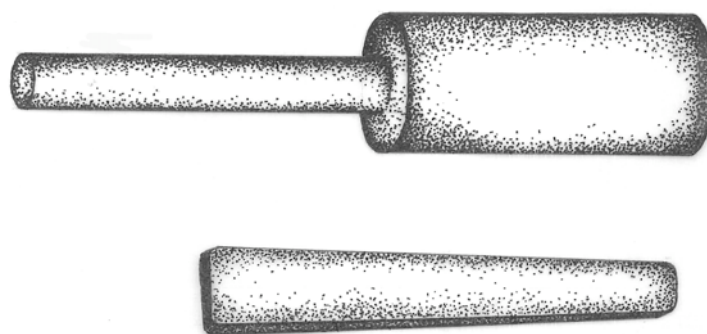


Fig.3.14. *Pukpuak*.

(iii) The Punan Bah use a small wooden paddle - *ou'ong*, reminiscent of a table tennis bat, in conjunction with a wooden stake - *tatong* to close woven material together (see pl.6.49).



The Lun Bawang and Penan use only the fingers to pull the weave closed.

TYPE OF OBJECT	MADE BY		FAMILY USE		FOR SALE
	Male	Female	Male	Female	
Trough	√		√		
Knives	specialist		both		√
<i>Janggal</i>	√		occ.	√	√
<i>Megat</i>	both		both		
Awl	both		both		
Weave pulls & hammers	√			√	

Fig.3.15. User / Maker Table.

## Colour, Decoration and Protective Coatings

All of the groups use colour on at least some of their objects, this is seen in many manifestations, complex beadwork, appliqué, embroidery, paint and dyes. Colour is found on items, throughout the various objects used in tasks, play and tradition.

**Beadwork** K.B. - *Aban*, Kl. - *ba'o*, L.B. - *ngook bau*, P. - *talem*, Sk - *e'now*, Kj. - *e'nou*, Lg. Julian Kenyah - *enok*)

Beadwork is found on items used in cultural activity and as a celebration of certain events, examples being baby carriers, commemorative pictures, items of traditional dress and objects used for visitors. Although there are many ways of applying the beads, the most common manner is seen in figures 3:16 & 3:17.

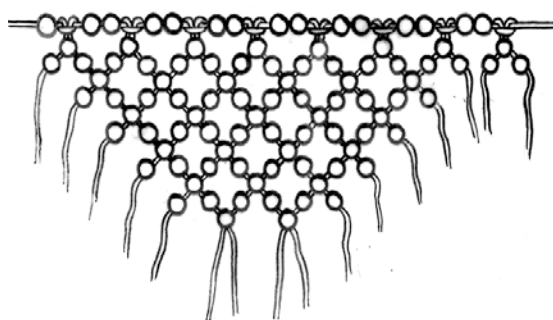


Fig. 3.16. Beadwork showing top edge.

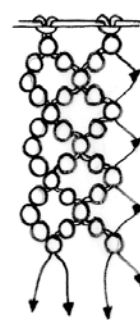


Fig. 3.17. Beadwork showing the side edge.

A string is fixed, on to which secondary threads are interspersed with a specific number of beads. The number of beads is dependent on their size and the spacing of the secondary threads, to avoiding cramping. The secondary threads are attached by their mid points, forming a loop over the string, and passing the thread ends through and pulling tight, the threads then hang down in pairs. The beads are threaded, first two threads together, then a single thread, then two together again, working in a zigzag down the piece. (see fig.3.15. & 16.)

A second method is by stringing the beads in small groups and stitching them

into a fabric before the next group is added, this can be used to build up lines or loops.



Fig.3.18. Beadwork in strings.

A whole culture has grown up around the use of beads as wealth and bartering power, so beads and their use often denote status:

‘Ancient beads are valued as adornments, for the social status and wealth they reflect on the owner and sometimes for their mystical qualities. In the old days beads were one of the principle forms of currency. They were handed down as heirlooms from generation to generation - often made up into skull caps, necklaces, girdles or wristlets and are still worn by many Kelabits, Muruts, Kenyahs... Some ancient beads are only worn for rituals or festivals, others are thought to possess magical quality... A rare ancient bead has a reputation similar to a precious stone or a fine antique in other parts of the world. The detailed knowledge of each bead, its name and age is remarkable amongst some of the older women who can identify 60 or more different types.’ (Sarawak Museum 1984:1)

Beads are also given as special gifts and to the bride at her wedding as a present from the groom’s family. Often one or two heirloom beads will be mixed into a string of more modern beads of a similar style. The traditional necklace given to me by Darie Linchaw of the Kenyah Badeng was on the proviso: I learnt to recognise the heirloom beads which she had strung in between modern beads. This gift was to show that I was considered part of her family.

The Penan have identified various local fruit and seeds which can be dried, polished and a hole bored to form beads.

Where beads are strung into designs, the beads of choice are small glass seed beads. The string was originally made from plant fibres such as that of the

pineapple plant leaf, there is a preference for pineapple, due to its hard wearing qualities. Many objects dating from over 100 years ago can still be found with the beadwork intact.

‘The thread used is prepared by rolling on the thigh, fibres are drawn from the leaf of the pineapple; it is very strong and durable. The design to be reproduced is drawn or carved in low relief on a board. A thread is fixed across the end of the board and others are tied to it at short intervals; on these the beads are threaded,..... and the colours of the beads are selected according to the demands of the pattern over which they are worked.’(Hose & McDougall vol. 1. 1912:11)

Circular designs are built up in two ways, both still working from a straight thread with spacing beads and secondary threads attached. Once the desired number of beads and threads have been attached to this thread, the two ends are drawn round until they meet and then tied together. More threads are either added at specific distances, or more beads are added to each thread within the design. The beads are added to make the work conical, or keep it flat. Extra additions of beads are required if the piece is to be flat, these two methods are for use as the decorative elements of hats which can be both flat and conical in shape.

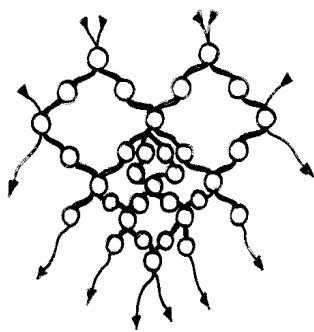


Fig.3.19. Addition of extra strands.

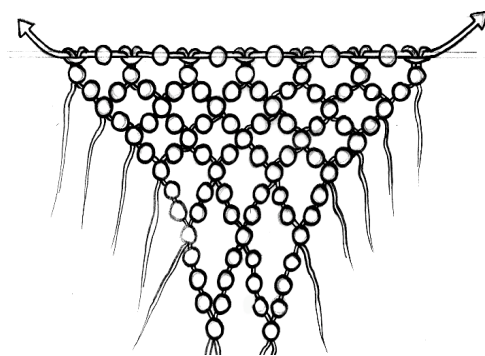


Fig.3.20. Addition of extra beads.

Beadwork decoration is produced by the women from designs almost exclusively produced by the men, who sketch them on to paper for the women to follow.

## **Appliqué and embroidery**

This is predominantly used on traditional costume, including utility sunhats. The decoration on these hats varies in its coverage, from a small disc at the point, to the entire outer surface and the inner hat band. The fabric is stitched in place by passing the needle through the entire substrate of the object. Embroidery is sewn onto this fabric, using shop bought threads or thread removed from the edge of a piece of fabric, to build up a repeat design.

These two decorative styles are often found together or with other elements, such as applied coins, sequins, braid and cowrie shells. The most highly decorative objects being saved for ceremonial occasions.

## **Dyes and dyeing**

The natural dyes are still the most used, giving a reasonably good selection of colours. Although to a certain extent today traditional dyes are being usurped by modern fabric dyes, because of the range of colours available, which include blues and greens. Experiments are still carried out among the Penan to expand the range of natural dyes. Most of the colours are achieved in the same way, though the ingredients and cooking times vary considerably. Times for making the dye can only be approximate as it depends on the quality and amount of both the ingredients and the material to be dyed. It is definitely the Penan who have the greatest colour range. Most groups use a red, made from various species and forms of rattan, and all use black.

Rattan or other materials to be dyed are first cut to length. If the entire length is to be coloured it is all placed into the dye solution. If only half the length is to be coloured, then one half is wrapped in a dry piece of *sang* leaf tied securely into place, then suspended over the pot with the half to be dyed in the solution.

Dye colours	Main ingredient * Penan	Second ingredient * Penan	Two part dyeing
yellow	<i>Curcuma domestica loir</i>	---	---
deep gold	---	---	red then yellow
pink	<i>Hibiscus</i>	---	---
orange / red	<i>Daemonorops didymophylla</i>	---	---
red	<i>Daemonorops draco</i>	---	---
red	<i>semek</i> *	---	---
dark red	---	---	dark brown then red / orange
purple	---	---	red then pink
light brown	<i>Alium ascalonicum</i>	---	---
brown	<i>Alium ascalonicum</i>	<i>tekaya</i> * etc.	---
brown	<i>Alium ascalonicum</i>	inner red bark	---
dark brown	---	---	black then red
black	<i>tekaya</i> *	alluvial river mud	---

Fig.3.21. Dye colours table.

### *yellow*

*Curcuma domestica loir*, turmeric root, known locally as *kunyit* in Malay (P. *laka tuak*) is usually collected wild, but can be planted. The root is pounded in a mortar to make a thick paste. The paste is put into water, forming a solution, the material to be dyed is then added (if this is rattan, the colour takes better when it is still green). It is cooked for about 30 minutes.

### *pink*

*Hibiscus* known locally by the Malay name *bunga raya*, the flower of this plant is picked and boiled in water with the material to be dyed for at least two hours.

### *orange/red*

*Daemonorops didymophylla*, (P. *udat*). The fruit of this rattan species is added to water, the smaller fruit is preferred when available. The material for dyeing is placed in the pot and boiled for 30 minutes. This dye will not take if it is contaminated in anyway with fat or oil.

### *red (i)*

*Daemonorops draco*, (K.B. - plant - *semoleh*, fruit - *nyaleng*; P.- *udat*). The fruit is said to be covered in dragons blood, although according to Dransfield, mature fruit is not known in Sarawak (1992:51), so it must be supposed that the *Kenyah Badeng* utilise the immature fruit for dyeing purposes. This is boiled in water until the required colour appears.

### **red (ii)**

The Badeng only use natural and black materials to form their designs. Prior to moving to the Koyan area from Lg. Geng they also used a red from both rattan fruit and a tree flower *semek*, found in that part of the rainforest. The flower is not available in their current location but this was again boiled in water with the material to be dyed, thus producing the colour.

According to Puri 2005:152 'The red inner bark of *behliu* (possibly *Barringtonia*) is used as a red dye for objects made of rattan and other plant fibres' by the Penan Benalui of Kalimantan.

### **light brown**

*Alium ascalonicum*, shallot (Malay -  *bawang merah*). The stalks are removed, the bulbs chopped and added to water, with the material to be dyed, before boiling for 30 minutes.

### **brown (i)**

Various leaves, (P. *ujung selega*), (P. *ujun pagung*), (P. *mivir*), (P. *terkaya*), particularly from any fruit tree, and also any fruit ie rambutan, can be chopped up and added to the shallot, then boiled in the same way to make a deeper brown colour.

### **brown (ii)**

The moss and lichen is removed from a type of unknown wood, then approximately 1 tablespoon of the inner red bark scraped off leaving the white bark behind. This is added to the shallot and boiled.

### **black (P. - padan)**

The Penan method of producing this colour is to use leaves (P. - *tekaya*, K.B. - *tebangau*, along with others) taken off the stem and put in a pot with water and the material to be dyed, it is then boiled for 2/3 hours; at this point there is no colour visible. Mud from the river bank (P. *tanat nyalit*) is then applied to the wet material and allowed to dry, often overnight. The mud is later washed off, revealing the black colour. The process can be repeated to get a darker colour if required. Again if oil or fat gets into one of the mixtures the colour will not appear.

The Lun Bawang use colouration, produced in this manner, on the legs of their *tayen* and other baskets, but not on the weave.

Kenyah Badeng boil the leaves in water with the river mud already added. The boiling takes between 2 and 3 hours, depending on the heat from the fire, and is then dried for 24 hours before use.

Both Darie Linchaw and Lidia Ngerung of the Badeng, agree that if chlorinated tap water is used then colouration does not take place (pers. com. 2004). Therefore, they cannot use the mains water in their longhouse but have to collect the water, either, from the river, or, as rainwater run off. This is not a problem that many of the other communities face, so it is not conclusively known whether it is the chlorine that is the problem, or it is perhaps due to another factor. I have had this same problem when dyeing with blackberries in the U.K. and turmeric in Kuching, Sarawak, if the water used has been chlorinated.

‘Dyers in different regions may get different shades from the same plants, because the mineral content of tap water varies from area to area.’ (Dean 1999:24) Dean goes on to say that the pH value of the water can also change the resulting colour (1999:28). Either of these could be the cause of the problem here, the Badeng having moved a large distance to the Asap area recently, it could be supposed the water was very different in their old location.

This black dye is very similar to the Japanese silk dyeing known as *Oshima tsumungi* or *pongee*, which also produces a strong black coloration. It was thought to have originated from Indonesia over 1000 years ago and uses a type of teak wood and root as the initial boiled product, prior to the mud immersion.



It appears that either the leaves or the mud act as a mordant in the black dye. Tannin from bark, roots, wood and leaves, is a well known form of mordant, so it seems reasonable to assume that it is the leaves acting in this way that produce the colour change, certainly this is the case in *Oshima tsumungi*. There is, however, a possibility that minerals within the matrix of the mud could be acting as the mordant in Penan and Badeng dyes. Aluminium, iron and copper compounds are all known to have mordant properties and are found in mud, although the colour each of these produced would be different. It does not seem plausible that mud all over the Ulu has the same mineral compound within its makeup, giving only a black dye colour, as is the case here.

‘The rattan to be dyed for patterned and chequered mats is then boiled for about four hours in leaves yielding a black dye. The preferred leaf is from a primary jungle tree which now involves a day’s journey to fetch. The more popular leaf is a secondary jungle tree and grows in recently farmed padi fields. The black from this leaf does not endure as well as the primary jungle leaf and also more easily blisters the rattan.’ (Heppell - no date:25)

No mention of mud is made here, so it is not obvious whether the process is the same or different, to the dye methods used by other indigenous groups in the area.

## **Multiple dyeing colours**

### ***dark brown***

The material is dyed black first and then overlaid with red, using the recipes above.

### ***purple***

The material is first dyed red and then re-dyed using pink. Another flower (*P. robong*) can be used in place of the *Hibiscus* (pink).

### ***deep gold***

Dyed red first then yellow.

### *dark red*

A brown dye overlaid with orange/red dye.

Once the dyeing process has been completed (and any *sang* removed) the material is hung in a shady area to dry as the sun will cause it to fade (the dyes not being particularly light fast at this stage). It is imperative that it is hung straight, as otherwise kinks will form in the strands. Before it is totally dry it should be wrapped, straight, in cloth, i.e. an old sarung; and be stored in this until it is needed for use. The dye baths can be stored for reuse and at Long Main are often passed around the community, for general use.

Rattan fruit (P. *udat* L.B. *kurad*) can be used to colour wood and bamboo containers by dyeing a stick and using it like a crayon to colour a surface. This is particularly used by the Penan particularly for highlighting incised decoration.

**Protective coatings** K.B., U.B., U.B.K, - *kadeng*, Kl. - *ubur*, L.B. - *kurad*, P. - *lusing*, the act of boiling up the bark for this coating is called *nyaleng* by the Kenyah Badeng.

To produce the coating the wood from the *kadeng* tree is pounded in a mortar until the sap is released from it. The sap is then smeared onto the weave, changing its colour in the process to a dark reddish brown. Not only does it impart strength, but also weatherproofing, making the basket last much longer.

‘*Syzygium rosulentum*, .... is used for proofing fishing nets, fish traps and baskets made from plant fibres. A fluid paste is made from the pounded inner bark mixed with water is applied to baskets and fish traps. Nets are soaked in the paste for two days. After this the treated item is dried in the sun.’ (Christensen 2002:238)

The Uma Bakah Kenyah only use the bark protective coating on the inside of

baskets made from bamboo to give them extra strength.

### **Paint and plastic**

These have become an integral part of modern baskets, paint is seen on the rims of sunhats and on the legs of *ingen*. In the cases of the Lun Bawang *tayen* and Punan Bah *julujok akar* and *tyo*, oil based paint is used to produce the overall woven pattern, by painting each strand in the colour required to form the design. The paint allows traditional patterns to become more complex in their colouration, and gives a greater variety of colours than can be produced using the natural alternatives as they can now include blues and greens (see materials).

## WEAVING TECHNIQUES

There appears to be no definitive method to recording basketry, with only a very few books on the subject, (see: *Who is Afraid of Basketry* - Wendrich 1991). In this paper I have tried to use the simplest terms to describe the techniques used:

- Weaving: where strands are laid in two different directions, at right angles to each other and follow an over under weave pattern. Where these strands are horizontal and vertical to each other, it is referred to as plain weave and plaid if it is woven on the diagonal.
- Plaiting: where all the strands originate from the same direction and are folded into position for weaving.
- Netting: Where a knotted mesh is made by evenly spaced ties formed in string.
- Wrapping: Where one element is wrapped around another, usually of a different material, This is similar to binding, but does not include the ties.
- String: A twisted length of material used for ties which can be made up of either S or Z spun material, depending on the direction of manufacture and whether the person producing the string is left or right-handed. Two of these strands are then put together to form a ply, preventing untwisting of the material and adding strength.

## Plain weaves

These are formed from strands running vertical and horizontal to each other and is the simplest method of weaving.



Fig.4.1. 2/2 Plain weave.



Fig.4.2. 3/3 Plain weave

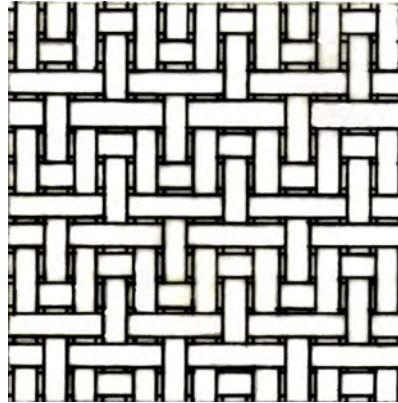


Fig.4.3 & 4. Two simple plain weaves patterns, (R) an arrow effect.



Fig.4.5. 1/2 Plain weave.

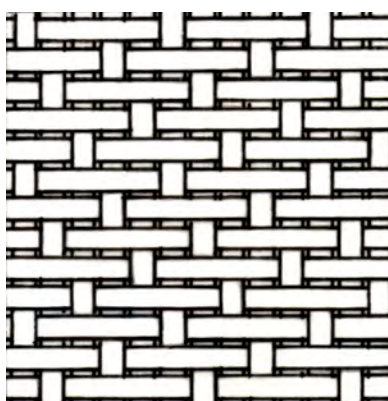


Fig.4.6. 1/4 Plain weave.

When a corner is reached the strands are all folded in a 90° upward direction forming the verticals and new strands becoming the horizontals. In a basket, the beginning and end of each horizontal strand overlap through the weave to hold them in place tightly.

Changing the size of strands within a weave can produce a very different visual impact, this can only be worked using a plain weave.

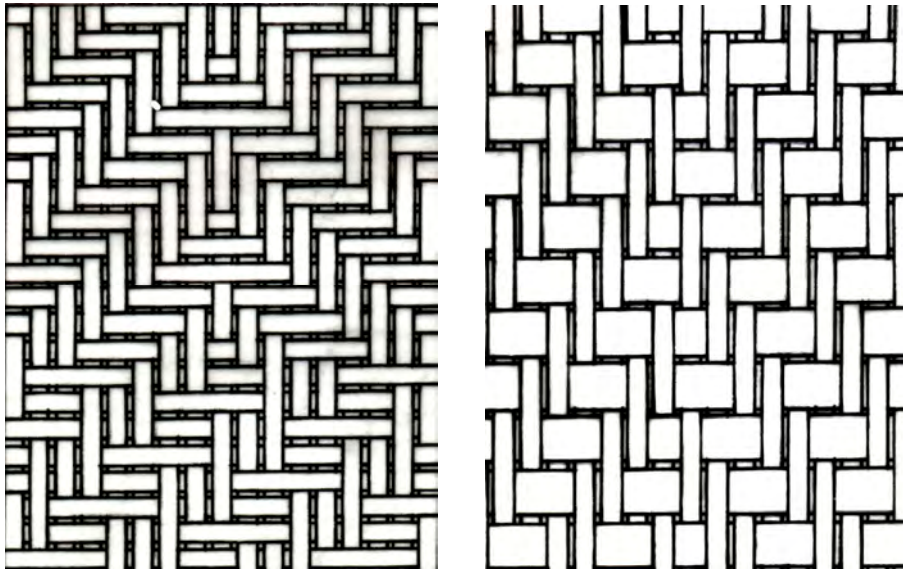


Fig.4.7. Similar weave patterns showing how a change in size of only one weave direction can change the overall weave appearance.

Complex patterns can also be produced in plain weave, this example is most often seen used on *tapan* winnowing tray.

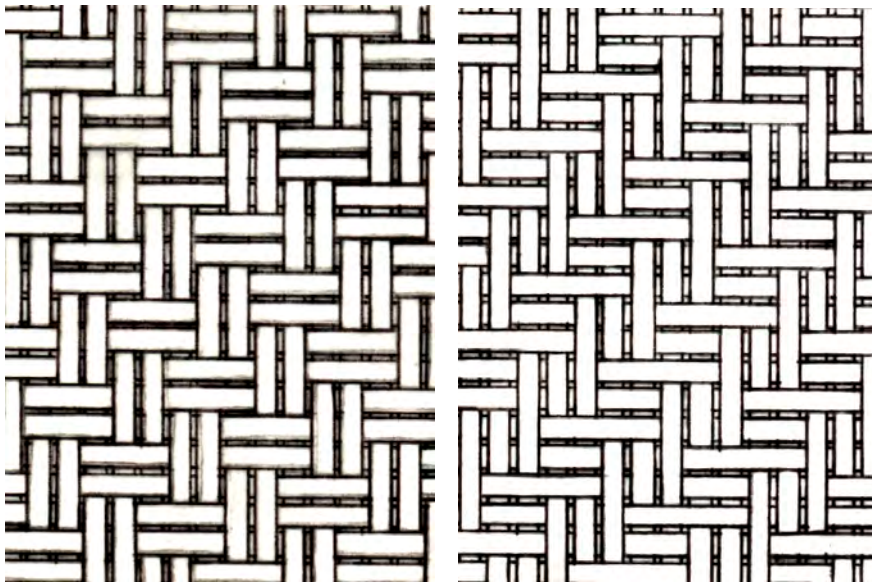


Fig.4.8. These two examples are of the same weave, depending on which side is viewed.  
(Left) a plain weave of paired strands,  
(right) becoming a totally different pattern to the other side.



## Plaid Weaves

This very simple weave is formed by staggering the start point of each strand by one place. Both 2/2 and 3/3 are produced in the same manner, just passing over more or less strands. These weaves can be carried out so the stripes lie both vertically (P. - *kutek pejek*, K.B. - *alé*, L.B. - *tenganuh' nurat tuped.*) or horizontally (P. - *kutek teperket*, K.B. - *belata*, L.B. - *tenganuh' nurat tepalang*).



Fig.4.9. 2/2 Plaid, horizontal.



Fig.4.10. 2/2 Plaid, vertical.



Fig.4.11. 3/3 Plaid, horizontal.



Fig.4.12. 3/3 Plaid, vertical.

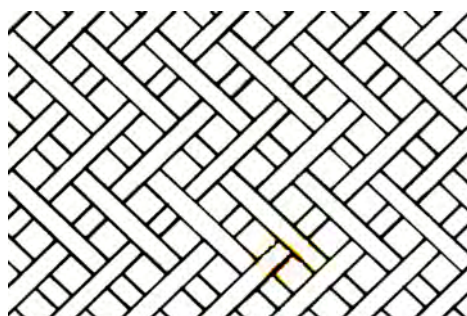


Fig.4.13. 2/2 Horizontal open plaid.

To produce a basket in this weave, single weaves called *mata* - x (P. - *maten*) must be incorporated into the base, otherwise when the corner is turned the pattern will not remain in an even plaid design. These two diagrams below show the positions of the *mata* within the weave. The weave is built up as a diamond until the corners are reached.

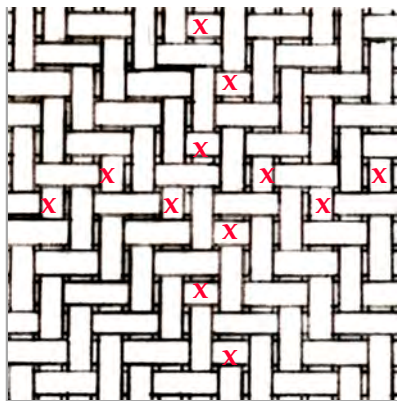


Fig.4.14. 2/2 Base using *mata*.

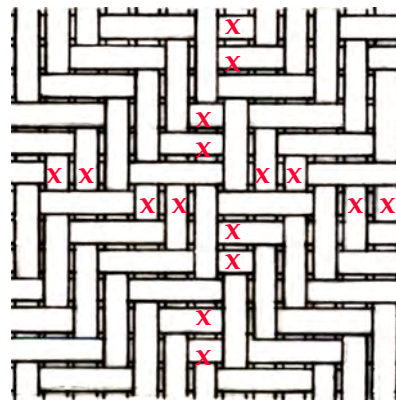


Fig.4.15. 3/3 Base using *mata*.

Where a corner is to be turned on a rectangular base the *mata* are spaced in a slightly different way:

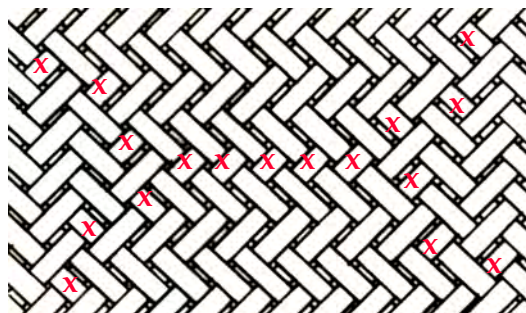


Fig.4.16. Use of *mata* to form a rectangular base.

The strands that initially change direction for the corners are those formed from the lines of diagonal *mata*.

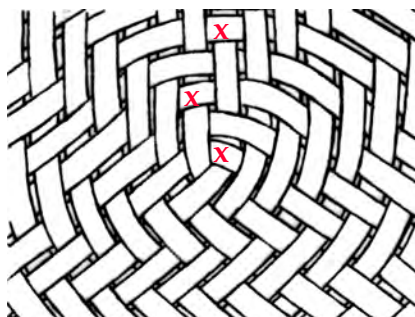


Fig.4.17. Turning a corner in a close weave.

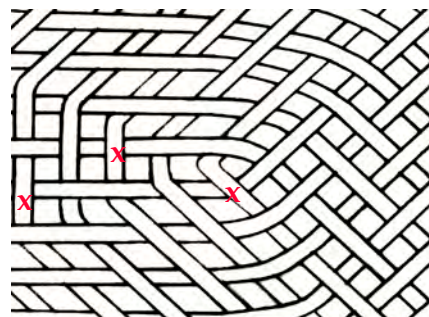


Fig.4.18. Turning a corner in an open weave.



Patterns are built up by changing the number of strands passed over and under in a particular sequence, this can be seen more fully in the section on designs. Simple plaid weaves start to become loose if too many strands are passed over each time, this starts to appear on 4/4 plaid weaves. It is possible to change from a vertical to a horizontal weave by using single outside weave and triple inside weave in a 2/2 plaid.



Fig.4.19. Change of weave direction, outside.

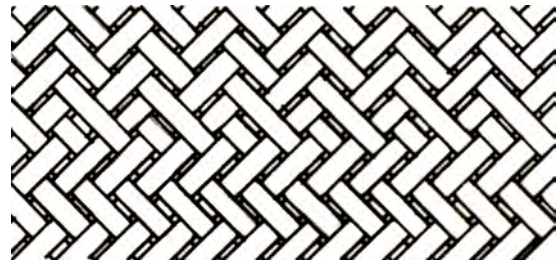


Fig.4.20. Change of weave direction, inside.

When spaced weaves are produced all of these above rules apply if the finished object is to be both strong and aesthetically pleasing, this is seen on items such as the *keratang* and *blanyat*.

When a close weave has been completed and it has been all pushed together (often with the fibres being wetted to soften them), the surface is rolled or rubbed with a heavy object. If the weave is part of a container a support is placed on the inside. To ensure a nice flat surface finish.

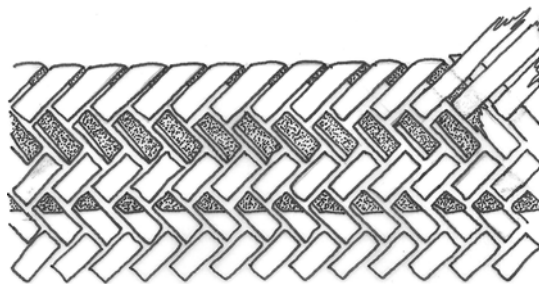


Fig.4.21. Turning a rim.

Rims are turned by bending the strands at 90° to the direction in which they have been woven, folding them over the top and passing them back through the weave. Open weave strands are often turned back on themselves and again woven to the edge to keep them more secure.

Most weaving is carried out in one of the two styles plain or plaid, although plaid weave gives more scope for artistic flair.

Woven plant materials can be used in the manufacture of flat articles such as mats, three-dimensional items like baskets and those in between, such as trays. Of these two types of weave, it is the plaid style that is seen most often and is used to produce, all but a few, of the varying types of object I discuss (see fig. 4.23).

A further style of weaving is made up of six strands positioned to form a hexagon and star shaped weave, (This style of weave is frequently seen on cane bottomed chairs in the West. In some cases the addition of further strands can be seen, making the weave very complex). All the Orang Ulu communities I studied use the simplest form of this weave, shown in fig.4.22. From it they manufacture such items as *keba* and *gai*, both baskets, for carrying heavy weights. Some forms of chicken basket are also made in this way, as the weave allows maximum air flow for the birds being kept inside.

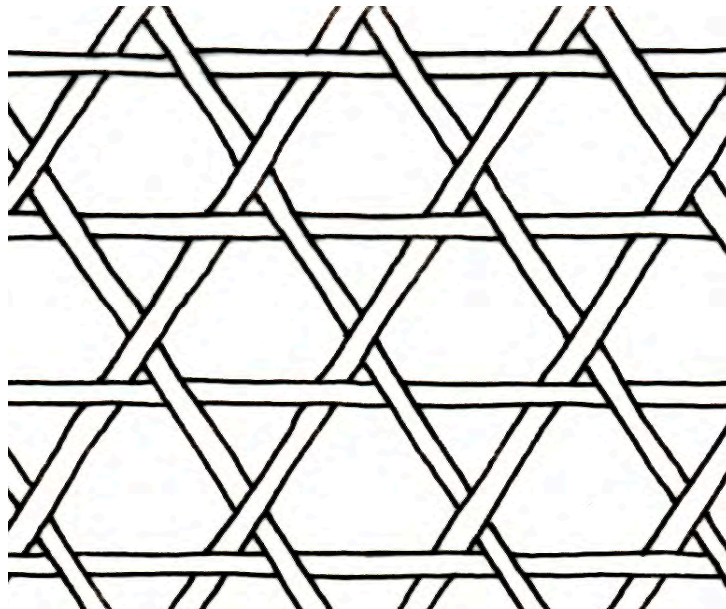


Fig.4.22. Hexagon and star shaped weave.

Fig.4.23. Table of Weave Styles.

	PLAIN WEAVE	PLAID WEAVE	OTHER WEAVES
OBJECT TYPE	MANUFACTURING COMMUNITY	MANUFACTURING COMMUNITY	MANUFACTURING COMMUNITY
<b>Rice Farming</b>  seed baskets harvest baskets winnowing tray winnowing sieve drying mats	Kj., Sk., P.B. Kj., Sk., P.B. Kj. all none known	all all all none known all	
<b>Gardens</b>  chicken baskets gardening baskets  fruit baskets <i>kelung gai</i> Kelung	Kj.	K.B. K.B., P.T., Lh., P.B., L.B.K.	K.B., Kl., P., L.B.  K.B., Kj., Sk. Kl. Kl.
<b>Forest &amp; River</b>  heavy baskets			all
<b>Houshold</b>  trays square basins bowls & fruit baskets cassava baskets cooked rice boxes fans sacks sleeping mats sitting mats boxes document holders baby carriers flowerpots purses	Kj., P. P.  Kl., P.	all  Kj., Sk., K.B. K.B. Kl., P., L.B. none known K.B., U.B.K., Kl., L.B. all all all K.B. all Kl., U.B.K. P.	K.B.  Kl., L.B., P., U.B.K.  K.B., P.
<b>Travelling Baskets</b>  all types		all	
<b>Protective clothes</b>  headbands skull caps <i>kelawak</i>		all all K.B.	

## Straps, Ties and Attachments

Many of the woven objects discussed in the following chapters could not be completed or utilized without a number of added features, giving strength, allowing the object to be carried; stored; closed; or for further attachments to be made.

**Head Band Straps** K.B. - *tapung ujab*, Kl. - *senguluk*, L.B. - *tengelai uluh*.

This starts as a heavy plaited band, which then divides into two smaller plaits, before becoming a 2/2 plaid weave, therefore, going from a rope to a flattened area for the forehead, before becoming a rope again. Another form involves a heavy plait, again dividing into two, then each part dividing, again, in to two, forming four strands before the 2/2 plaid weave begins. If necessary in emergency a piece of barkcloth can be used, but this is rare. Lidad Selutan, a Lun Bawang, states that they almost never use a head strap on their baskets, unless it is an extremely heavy load (pers. com 2003).

**Shoulder straps** K.B. - *ay*, Kl. - *telaih*, P. - *terlinan*, L.B. - *tengelai*, P.T. - *vee/veehay*, KJ. - *we'i*, Sk. - *wei*.

Straps (*ay*) are produced from six strands. Starting in the middle of the strands, two of them remain passive. The other four strands are woven about these two in both directions, by crossing the strands over the core, two in each direction. Next passing one of the upper strands round the back, through the two on the opposite side and then bringing it back across the top, so that it lies below its pair. This process then carried out with the top strand on the other side; working out from the centre in both directions until a long enough length has been woven, that can be doubled over to form a loop. When it has been doubled over there are twelve strands, one of which is cast out of the weave at this point, leaving eleven strands with which to weave. The weave pattern is a

2/2 twill, but when a strand reaches the edge, it is twisted over, so that it lies at 90° to the direction it has just come from, and is ready to be incorporated back into the weave, with the skin face of the rattan uppermost. When the required length of strap has been produced in this manner, the five central strands are used to form the core, with three remaining on either side. The top strand is then taken round the back, passed through the top two on the other side, and brought round the front again, so that it becomes the lowest strand on its original side. This process is carried out with the strands going back and forth until, again, a long enough length exists to double over and form a loop. The five central core strands are then cut off and the six remaining ones are pushed into the weave pattern of the main strap, until they are securely held, at which point, they too are cut off.

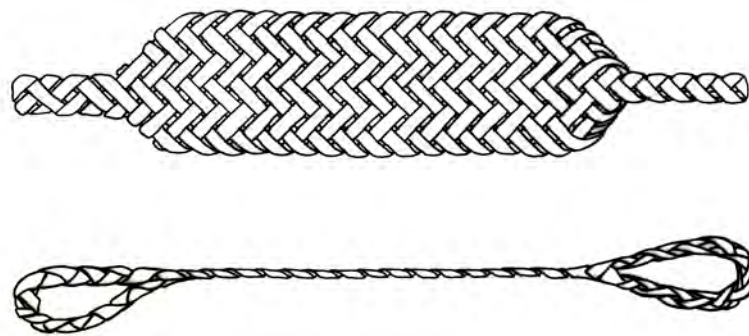


Fig.4.24. Strap.

A variation on this is mentioned by Dunsmore (1991:206):

‘They are made from a round 4-strand plait, folded into a loop and all ends made into a squarish 8 -strand plait. This in turn is plaited into a flat twill along the stretch that will lie on the shoulder. After forming another loop, all the ends are slotted and folded back into the flat braid to form a pattern and a finish, which can hardly be detected.’

The Kejaman often produce more complex, decorative, straps, using the same basic techniques. They use more strands in the core, and make the plait longer, so that, when it is doubled over, it can be woven into an eight strand rope, rather than making it a flat weave at this point. The strands are divided, and two further plaits produced, often this weave becomes flat, and continues in the

manner already described. Some Penan in the Baram also do this dividing, but then return the strands to one plait again, before making the flat weave; according to Ribeka Nyato (pers. com. 2002), this is dependant on the rattan length. They also use many different designs, chequer, crocodile back etc. along with colour on their straps. Some Kejaman straps are also produced from fewer strands producing a thinner end product.

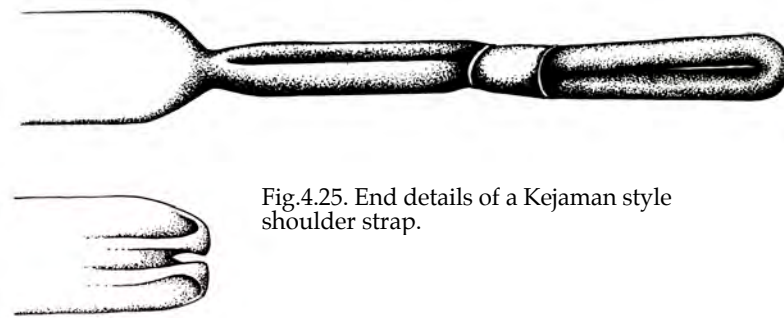


Fig.4.25. End details of a Kejaman style shoulder strap.

A further strap type, made by the Badeng is called *ay aya* (*aya* - eight). This is made up of strands positioned as shown in figure 4.26, forming an eight pointed star. When this shape has been produced, all the strands are pushed up to a 90° angle from the flat. They are then in a position to be woven into a very tight plaid tube (I personally find it easier to weave this tube onto a core, but I have never seen the Badeng do this). When the tube is considered long enough the strands are separated into two sets of four and plaited, before being flattened for the main section of the strap to be woven. This tube appears to form no function, being purely decorative.

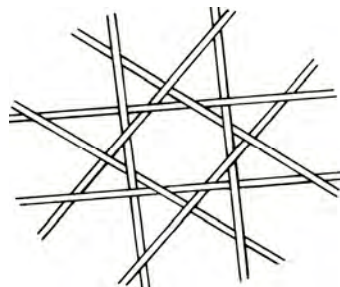


Fig.4.26. Ay Aya starting point.

The Lun Bawang also use waist straps, which are again called *tengelai*. They are made from lengths of barkcloth or of fabric, usually red; these are threaded

through the loops - *berkang* found at the top of their baskets. These straps can also be worn across the body, from shoulder to opposing waist side if wished.

**String** P. & K.B., - *tali*, Kl. - *nupar*, L.B. - *nuber*.

String is rolled in two parts on the thigh and the two then allowed to twist together to give a two ply strand. It is produced from various materials, several types of long grass/leaves are used. *Leva* (P.) is a particular leaf type used by both the Penan and Kelabit. They may also use the bark of a particular tree or fibre from the leaf of the pineapple, amongst others. *Antiaris toxicaria*, is the type of fig used for barkcloth and string. The string from bark is from the secondary inner bark, cut from the tree with a knife and the sap allowed to dry. The uses of string is manifold but includes the attachment of straps; or sewing in bases for *serut*. In earlier times, they were used for the production of fishing nets and for stitching the leaves together for sunhats. Bark string is the strongest and, therefore, the one preferred, unwoven rattan is considered the weakest.

## Handles

Handles for various baskets are produced from rattan. The simplest handle being manufactured from a single piece of rattan bent to shape and passed through the weave below the baskets rim.

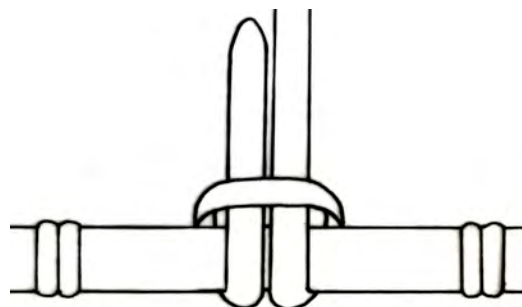


Fig.4.27. A simple handle.

Other simple handles are produced in the same way as used for beginning the shoulder straps, but continued until the length of strap is complete. A core of



passive strands is used, the number in this case depends on the width of handle required, usually based on strength needed, and the strand size available. Four strands are woven round the core in the manner described above, and are seen on modern plastic shopping baskets. The simplest pattern available uses a four strand combination but other weaves involving only two strands, can be more complex; passing these strands through loops produced from the other strand. Both of the strands work around the entire circumference of the core. The pattern built up depends on the manner and direction in which the strands pass through the loops, they can be made up of strands of one colour or two. These weaves are also used to produce decorative bracelets, for personal adornment and for sale. In the case of bracelets, and of some of the handles, a single piece of wide half cut rattan is used as the inner core.

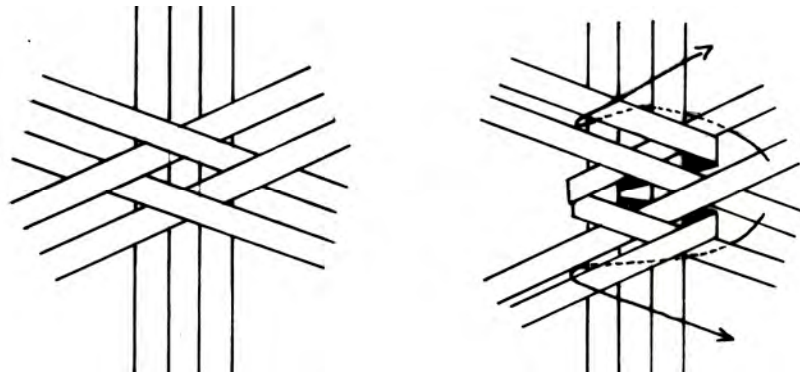


Fig.4.28. Starting point for a 4 strand weave.



Fig.4.29. Completed 4 strand weave.

A typical jewellery element is formed by wrapping. It too is worked onto a core, but in this case the outer strand or strands are solely wound around this. Bracelets are very traditional and have a very long history amongst the various communities, especially the Penan, other groups also use *ulat* style plaiting. Although traditionally, wound bracelets are black, nowadays they are also made in various colours, and frequently of more than one colour. These are worn by men, just below the knee or above the biceps. Where a wide core has been utilised, other colours are often woven through the strands to pick out a



pattern. It is rare to see more than three colours used in a single bracelet: in exceptional cases they are made small enough to be used as rings. Bracelets produced by the Badeng from a plait are called *lekok*. Penan of the Upper Baram call the woven bracelets *selungan*. Further bracelets are produced by burning a design into the surface of the rattan, traditionally by heating the end of a *tahat* - blowpipe dart, today mosquito coils and joss sticks are used in their place due to the fact that they keep burning, these bracelets are called *jong*.

**Hanging loops** K.B. - *kisew*, P. - *kematak*, L.B. - *berkang*, Kl. - *lalid / dalit*.

These loops are used in several ways: to hang basket up out of the way; to attach integral parts to a basket such as straps or rims (ie. the Penan *gawang*) and to hold additions such as ropes to a *keba* to stop items falling out.

The loops are easily produced by pushing a strand of rattan through the weave or rim, repeating this again slightly further along the weave or rim, forming a loop on the edge. The strand is, then, brought back to its starting position, thus forming a second loop of the same size. The strand passes through the weave again to hold it secure. From here the strand is wrapped around the loops, by forming a small loop to one side, passing the strand under the double loop and over the top where it then goes through the small loop and the strand pulled tight.



Fig.4.30. Starting point and completed *kisew*.

This process is continually repeated until the length of the double loop has been covered in this binding. The strand then passes through the weave a final time and is then pushed through the binding to secure it so that it can be cut off.

## Rings K.B. & P. - *ulat*.

These small rings are predominantly used around the openings of *serut* and *blanyat* style baskets, and form the start point for much of the weaving in these items. They can also be made into bracelets and rings.

The rings are made using a one strand continuous plait, formed from a strand being twisted into two coils side by side, the second loop of the strand crossing over the first. The strand is then brought up again, but instead of forming a third loop it is passed over the first loop and under the second to come out on the other side. The second loop is pushed over the first and the strand pushed through in the same way, but from the other side. This is continuously repeated until the strand has returned to the beginning of the loop. At this stage it then follows this original course of weave round the loop twice more, building up the pattern. Further strand passes can be added building up the width of the ring, depending for what the *ulat* is to be used.

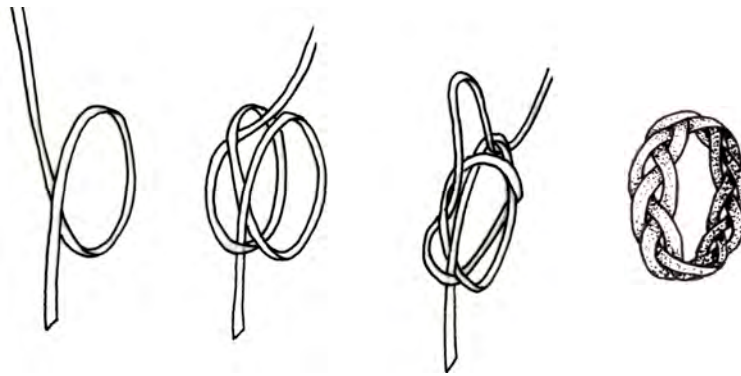


Fig.4.31. Initial stages of forming an *ulat* and the finished product.

## WOVEN DESIGNS

A great proportion of the woven objects belonging to the various communities seen in the Ulu, are decorated with integral strand patination. The number of different designs found is large. Many of the designs are the same for all of the communities, although I frequently found that the design will represent a different meaning depending on who is asked. Generally it can be said that people of a single community will agree on the image and its title, but I did not always find this to be the case and these disagreements occurred regardless to which group the maker belonged. Occasionally identification of a design remains the same between groups, but frequently this is not found. Here I give the Penan and Kenyah Badeng meanings for the different designs, as they illustrate the way in which differences in identification between the indigenous groups occur. These two groups also tend to use the largest range of design.

The designs can be separated into two types, banded design and block patterns. These are used in slightly different ways. The banded design can be seen on almost all types of basket used as horizontal stripes. Sometimes the entire surface area is patterned, but it is a little more usual for the design to be found towards the rim, or base, or both.

Block patterns are only to be seen on *serut*, mats and occasionally *tapan*. These articles have large uninterrupted areas where there are no other elements found, such as legs, strapping or a flaring of the weave. Such items have been used throughout history for barter and can now be found for sale. Often they are on show and, therefore, seen by visitors, also they can be given by either the maker or community as gifts to friends or visiting V.I.P.s.

In almost all cases, the designs are based on the natural forms they see around them, or are taken from objects in daily use.

## Banded Design

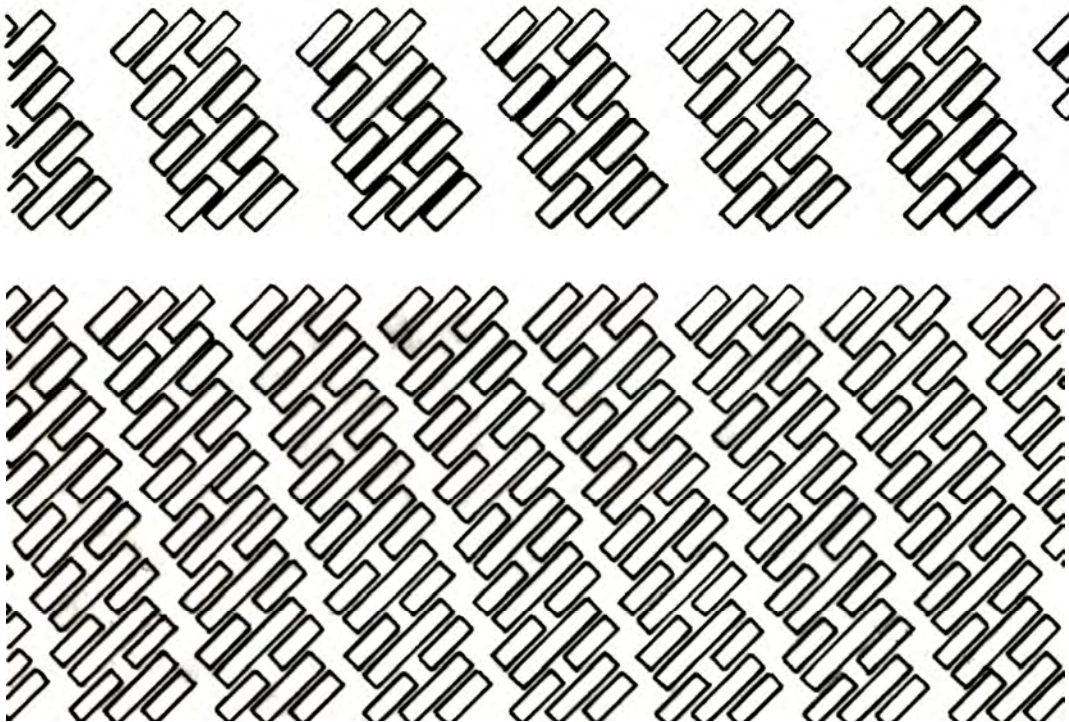


Fig.5.1. & 5.2. P. - *iko bayah* crocodile tails, K.B. - no name.

These two designs are based on the same weave pattern, to the Penan these represent crocodile tails - *iko bayah*, Kenyah Badeng say these designs have no name.

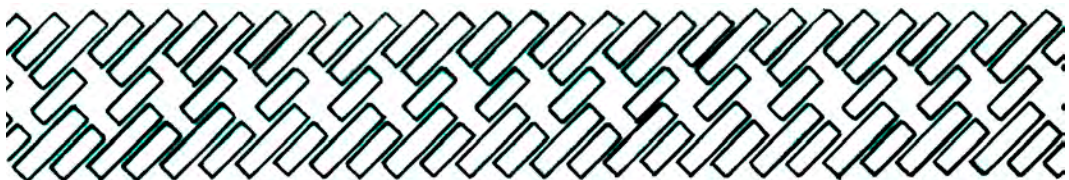


Fig.5.3. P. - *jipen kermanan* - cobra teeth, K.B. - *tulang atuk* - small fish bones.

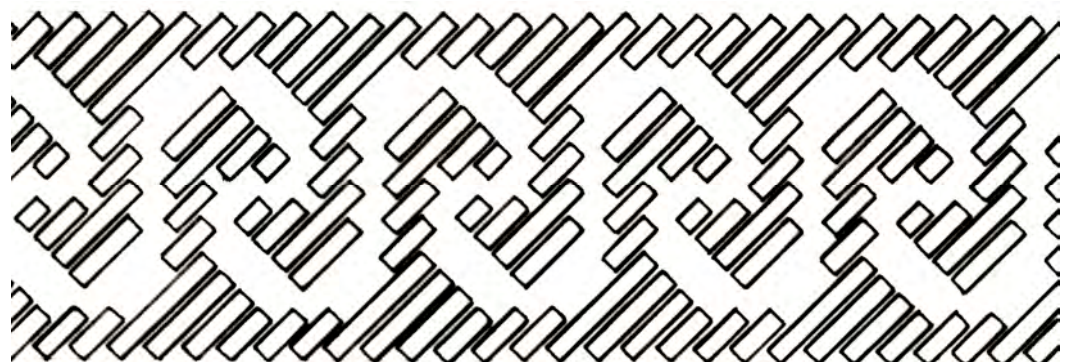


Fig.5.4. P. - leeches - *kematak*, K.B. - foetus - *tadinganak*, a new design name.



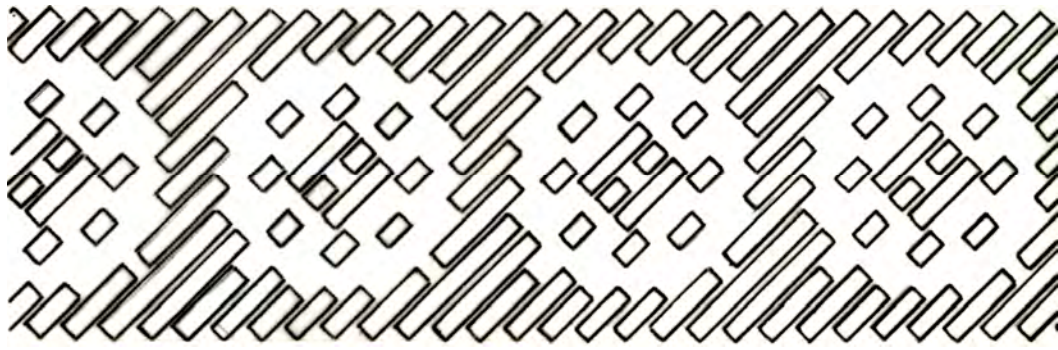


Fig.5.5. P. - *selining bulan*, the full moon;  
K.B. - *abut sung*, the base of a large bamboo used for water carrying.

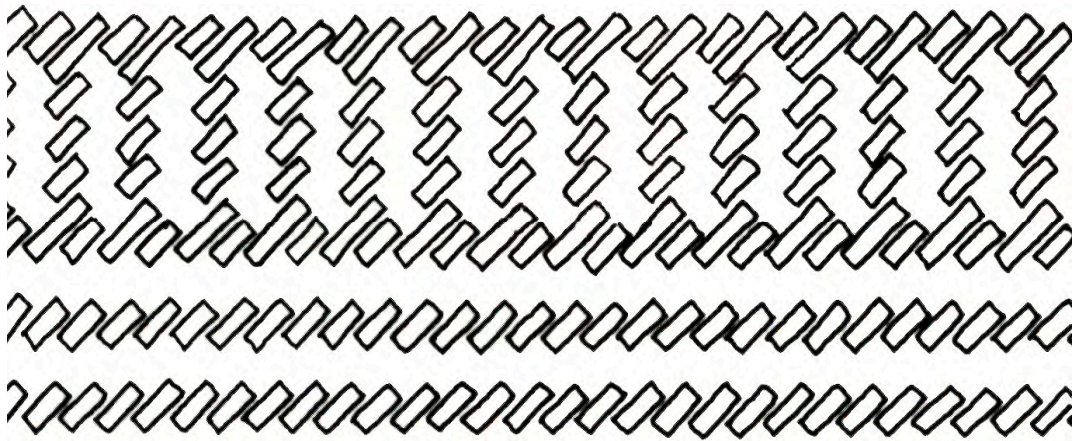


Fig.5.6. P. - *terkivan*, plant stalks; K.B. upper - *anyam deng*, start/finish & lower - *anyam belata*.

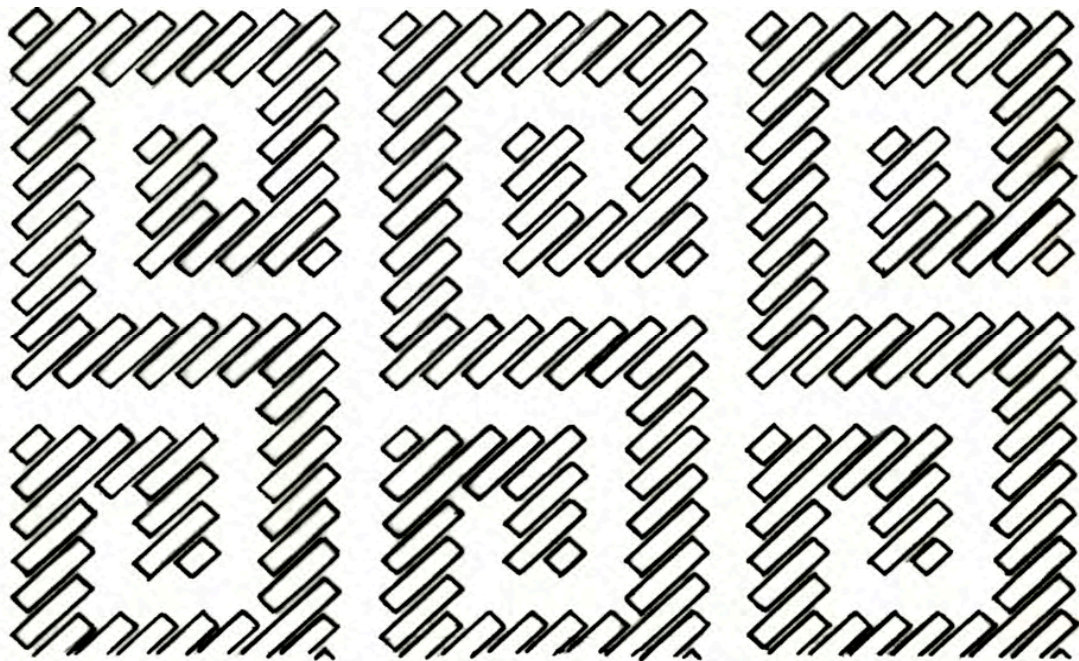


Fig.5.7. P. - *kerjiko*, snake; K.B. - *pesi*, fish hook.



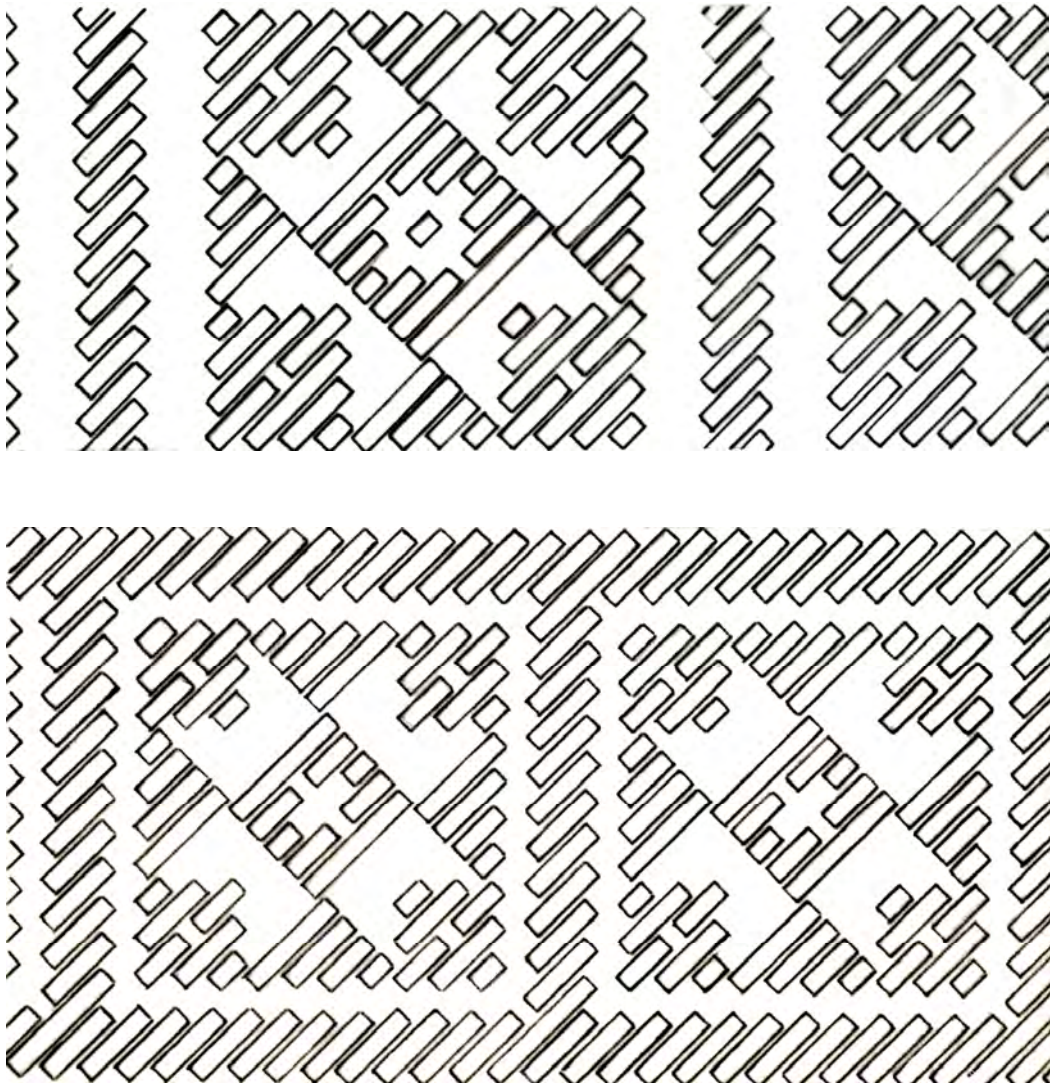


Fig.5.8. & 5.9. P. - *terjat tepun*, paw print,  
K.B. - *krisi bunyau*, the stalk attachment at the top of citrus fruit.

These two images, although slightly different are considered by each group to be the same design. Penan - Paw print - *terjat tepun*. Kenyah Badeng - the stalk attachment at the top of citrus fruit - *krisi bunyau*.

As can be seen, all of the above patterns are based on the natural world, but there is no agreement between the Penan and Kenyah Badeng on their meaning.

Further banded designs are taken from objects of common household usage by the Penan. All of the below being representations of string and knots - *butek tali* to them, but having other meanings to the Badeng.



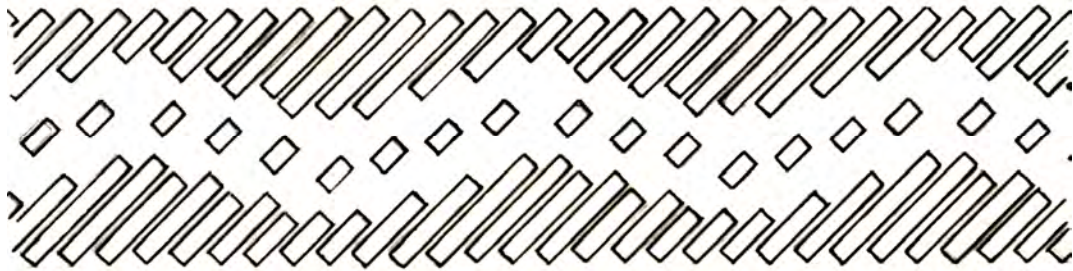


Fig.5.10. K.B. - *nyip delok*, snake trail.

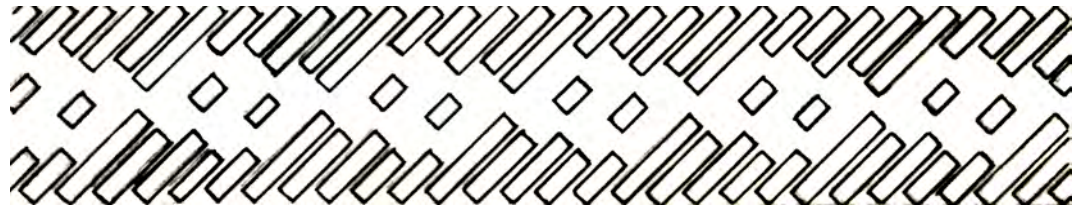


Fig.5.11. K.B. - *didep*, earrings for extended ears.

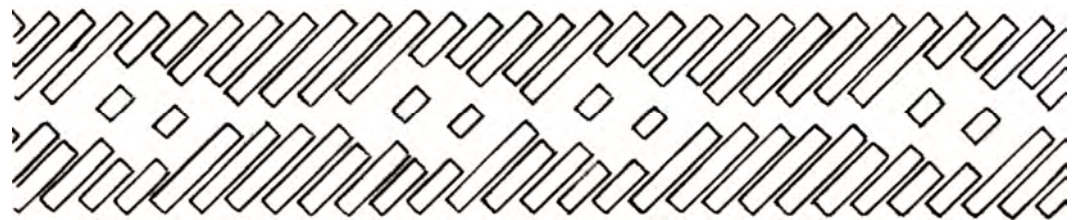


Fig.5.12. K.B. - *didep*, earrings for extended ears, a new design name.

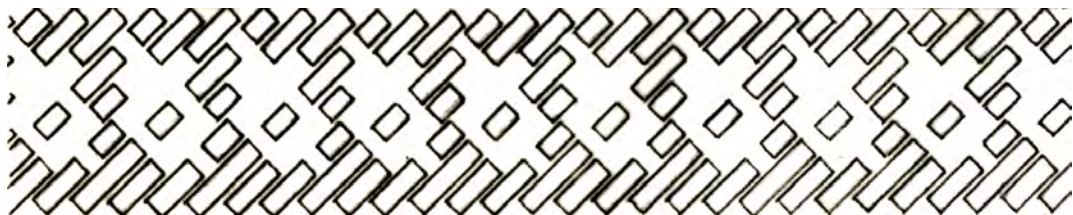


Fig.5.13. K.B. - *bunga*, flower bud.

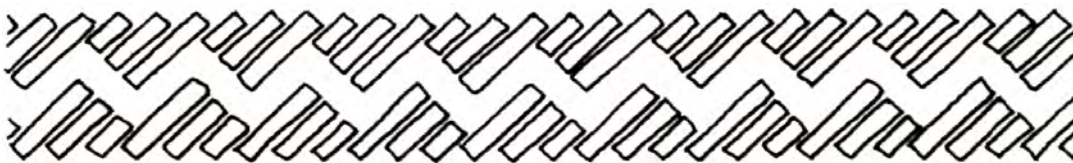


Fig. 5.14. K.B. - *nyip dilok*, snake trail.



Fig.5.15. K.B. - *kereta*, car, a new design name.

Another manufactured object belonging to the Penan, frequently found in these patterns, is that of a blade, knives, spears etc. - *nyatap*, which again is a very important piece of equipment used many times daily. The first two designs have the same association for the Badeng (figs. 5.16 & 17), but again

some of these designs have different associations.

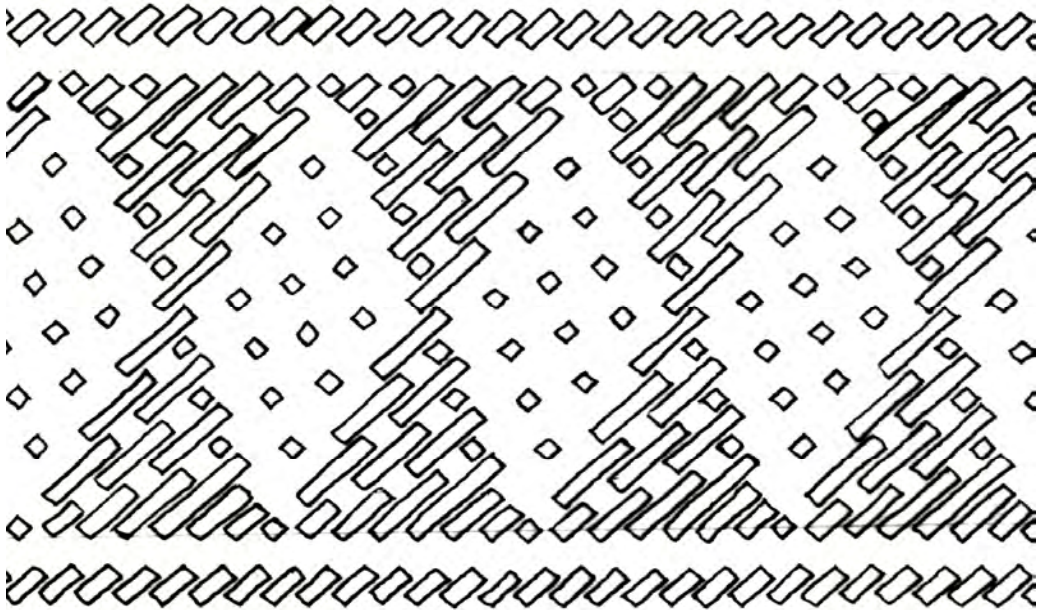


Fig.5.16. K.B. - *nyatap*, blade.

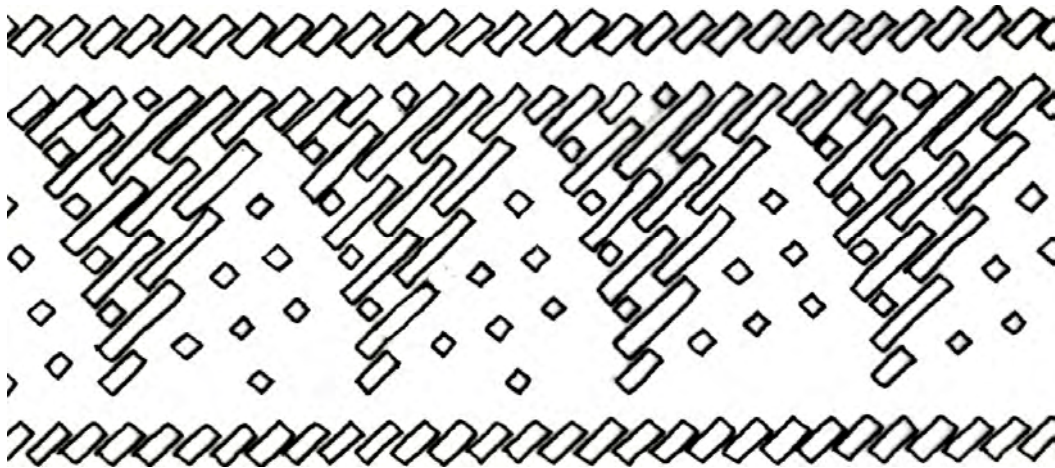


Fig.5.17. K.B. - *nyatap utun*, blade point.



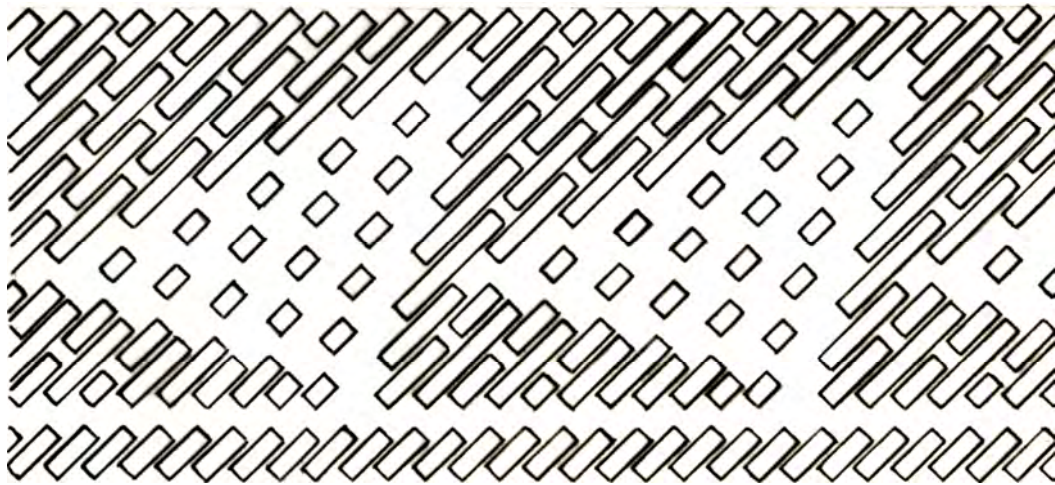


Fig.5.18. K.B. - *kapit ulut utun*, butterfly wing.

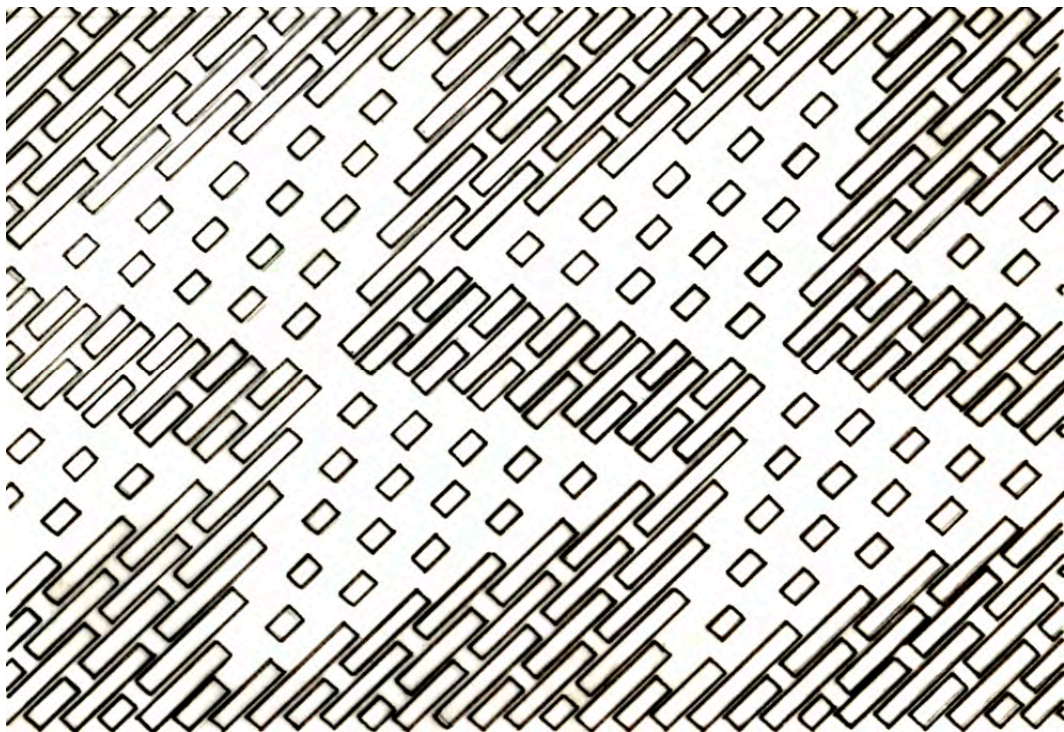


Fig.5.19. K.B. - *kapit ulut*, butterfly wing.

The above two designs although having a different meaning to that given by the Penan, both have the same meaning in Badeng. The similarity in design structure is obvious, the top half the pattern being the same in fig.5.19, with the rest of the design as its mirror image.



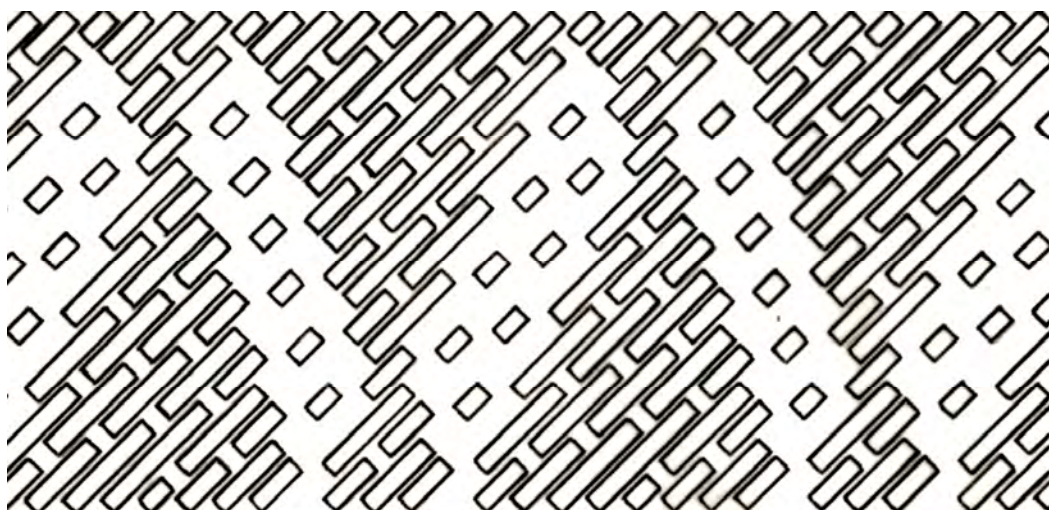


Fig.5.20. K.B. - *bak bakak*, legs akimbo.

This image is again seen as a blade design by the Penan but as a different image entirely by the Badeng.

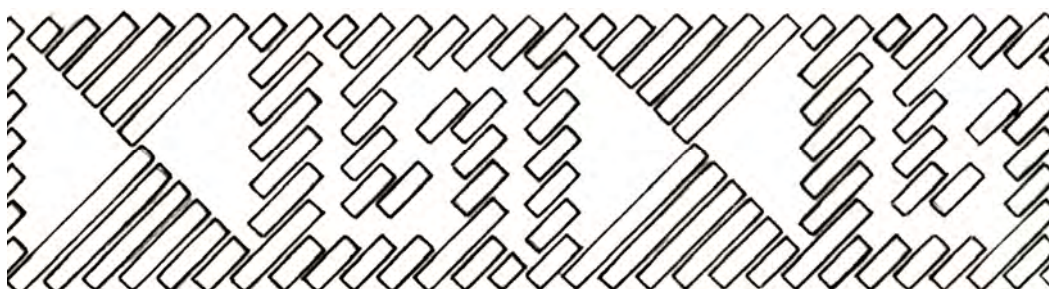
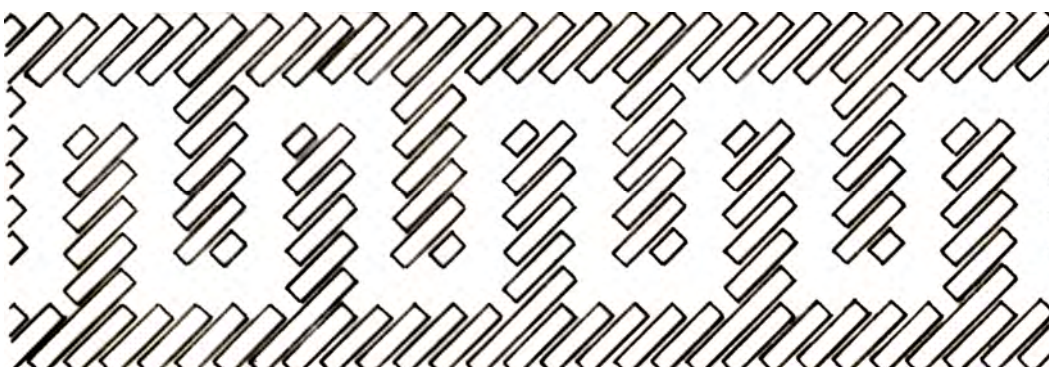
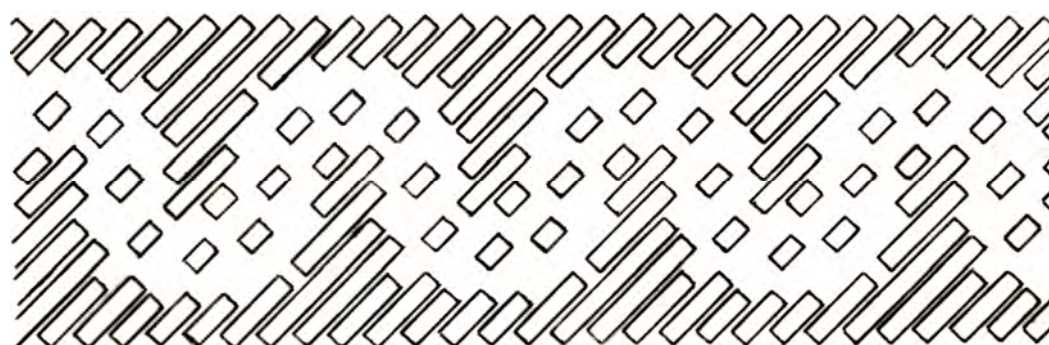


Fig.5.21, 22 & 23. P. - *kerjiko*, snake; K.B. - *nyip*, snake / *bukut*, type of rattan & *kapit ulut betep* - butterfly, a new design name.

The last three designs all have the same meaning as each other and generally to



each group, although in these cases the Badeng were unable to agree with between themselves whether the designs represented snakes or a specific type of rattan.

In a few other cases both groups agreed with each other on the names of the designs:

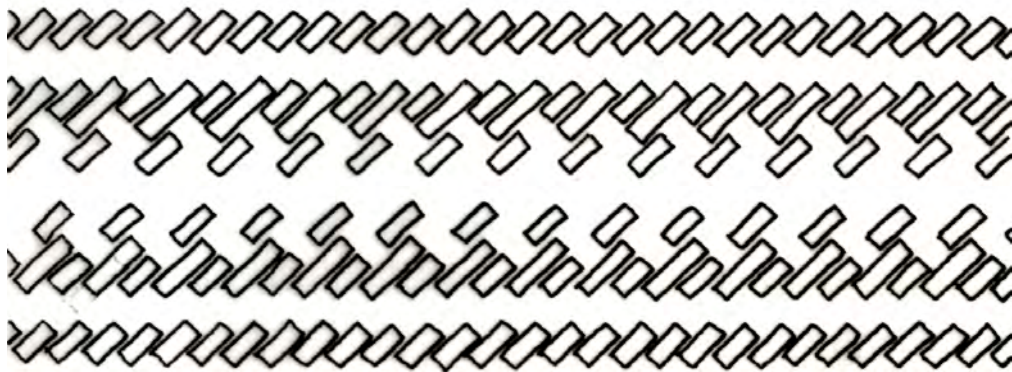


Fig.5.24. In both cases this represents the small bones of fish,  
P. - *terkivan*, K.B. - *tulang atuk*.

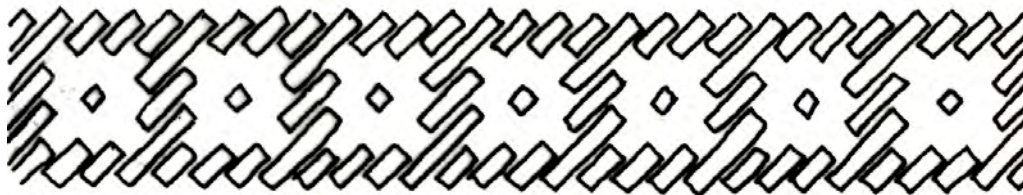


Fig.5.25. This image represents birds eyes to both groups,  
P. - *maten juhit*, K.B. - *luang mata*.

Some designs still used by the Penan no longer retain a name, (these have been forgotten over time), the Badeng still give a name to all of the designs they use, examples of which can be seen here:

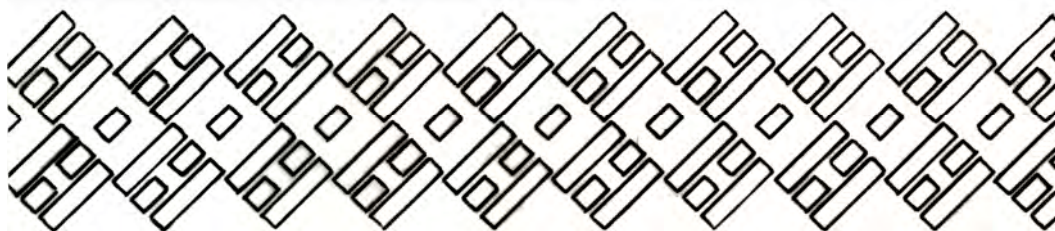


Fig.5.26. K.B. - *lekak jam*, watch strap, a new design name.

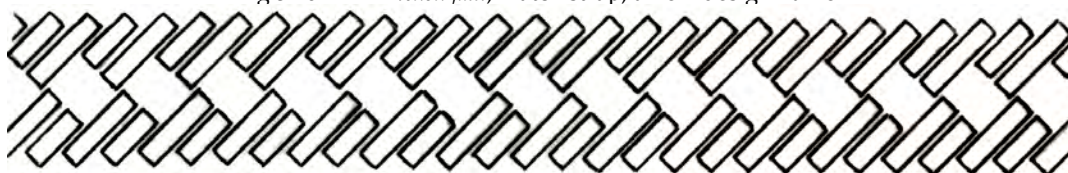


Fig.5.27. K.B. - *anyam besagek*, square weave.



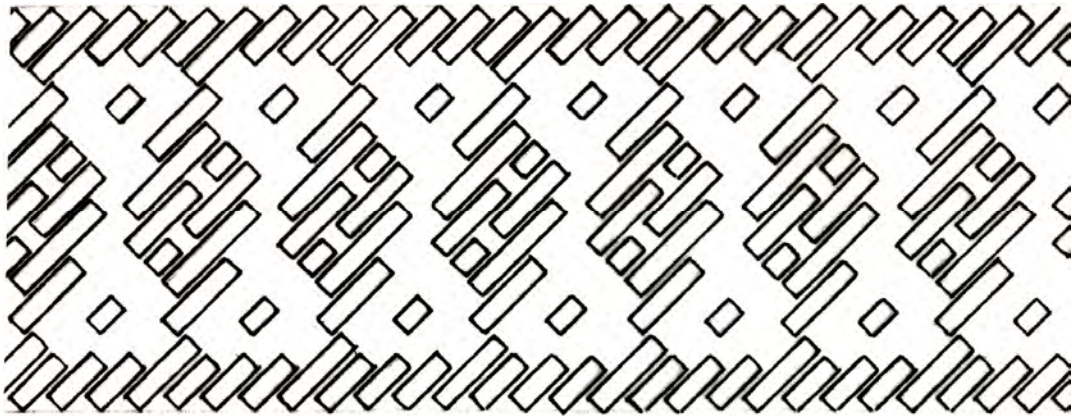


Fig.5.28. K.B. - *didep*, earring for an elongated ear.

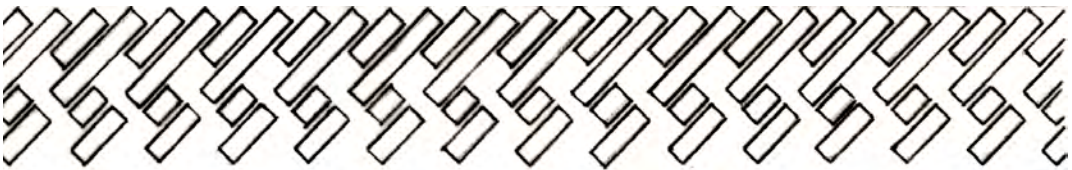


Fig.5.29. K.B. - *tulang atuk*, fish bones.

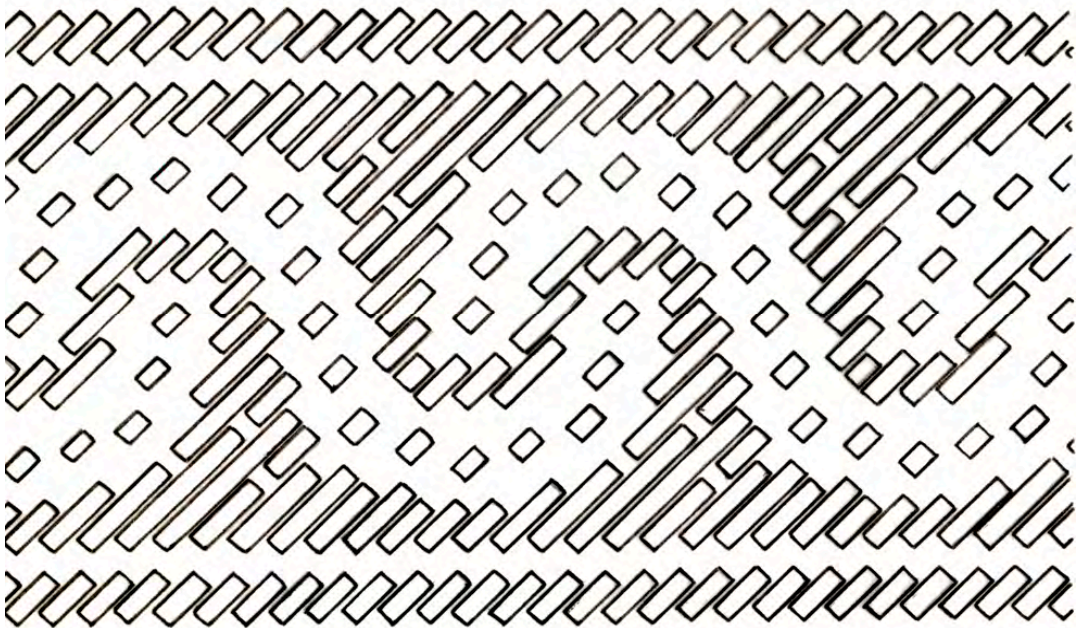


Fig.5.30. K.B. - *bukut betep*, join in rattan.

With fig.5.30. No firm identification could be given for this design by the Penan, though it was thought possible that it was based on a leech or snake type design.

All the above designs can be seen on Penan weaves, but the Penan will often

admit to no longer knowing the design meaning. The Kenyah Badeng will give a design a new meaning when the original meaning has been lost, examples can be seen with *kereta* - car (fig.5.15), and *lekok jam* - watch (fig.5.26), although both of these designs date from before the introduction of these items to the Bedeng (these new names were given post 1979). It is possible that the way in which many of the Badeng sell their *blanyat* (P. - *serut*) accounts for these modern meanings: often designs are chosen by a buyer in a distant location like a logging camp, the order is then placed by passing the information from person to person using word of mouth, it is, therefore, important to have some identifying name for each design. The Penan choose the designs for weaving themselves in most cases and so do not need a name for all the designs. Where a design is picked by the buyer the design is chosen from a range of woven examples.

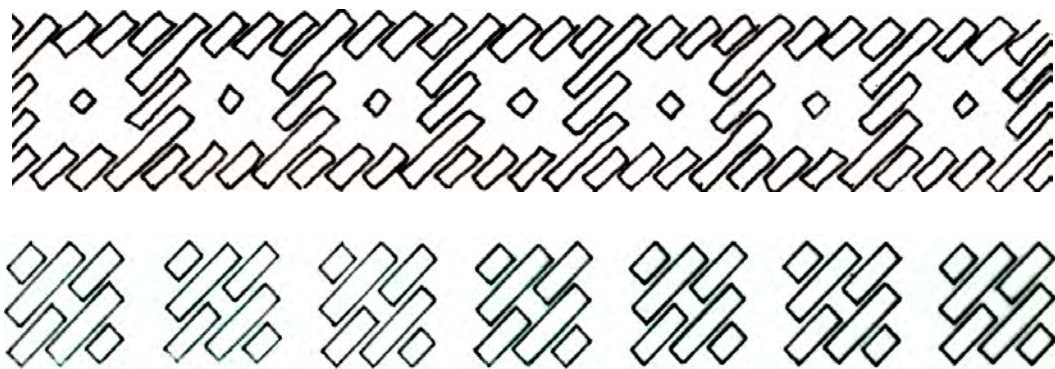


Fig.5.31. This shows the birds eye image as both positive and negative images.

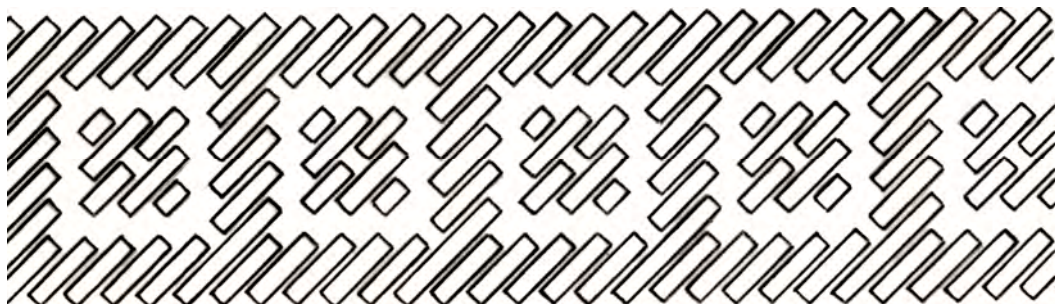


Fig.5.32. This shows the birds eye image within borders.

As can be seen in fig.5.31 & 32 changing the weave colouration to a negative and putting the design inside borders can make a very large difference to the look of the design; this is often carried out to give a variation to designs.



A further design style which is only now coming to prevalence is the introduction of words into the bands. This has only occurred as literacy rates have increased. They are usually found to be names of ownership, popular or Christian sayings, or to commemorate a particular event. It is possible to produce letters and numbers from woven strands as can be seen in a design I produced using my Badeng name and the year:

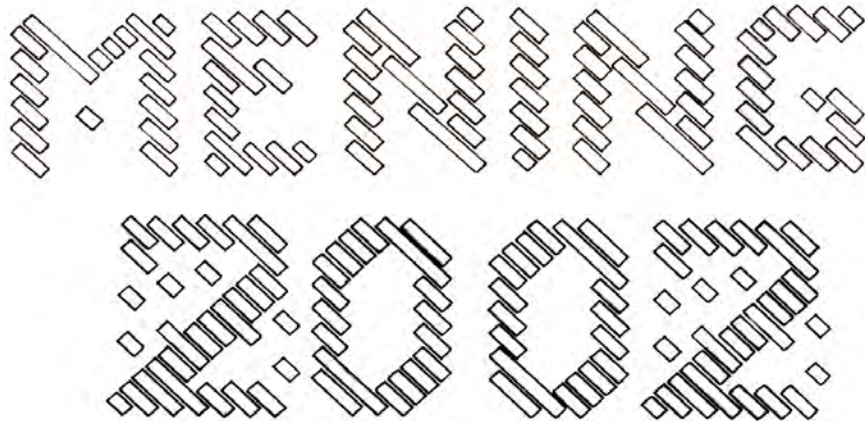


Fig.5.33. Letters and numbers used in woven designs.

Where long strands are located within a word a holding strand has to be woven to prevent the weave from becoming baggy, these holding strands can be seen in fig.5.33, in the weave of the number two. The position of holding strands is dependent on the word as letter spacing, (for the full alphabet and numerals see appendix 2).

The Badeng when identifying designs for me consulted each other frequently before coming to agreement and giving the design a name, so the decisions were made as a group. In both the case of the Kenyah Badeng and the Penan it was the women who remembered the design names.

## Block Patterns

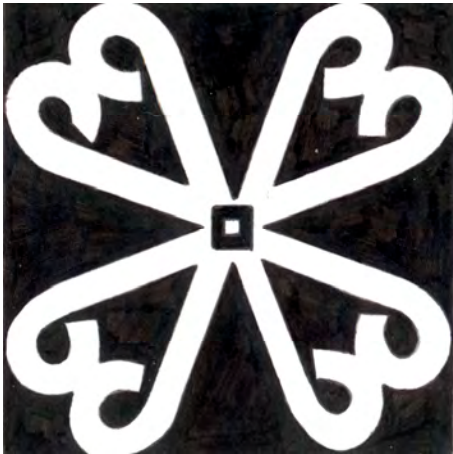


Fig.5.34. P. & K.B. - *bunga*, flower.

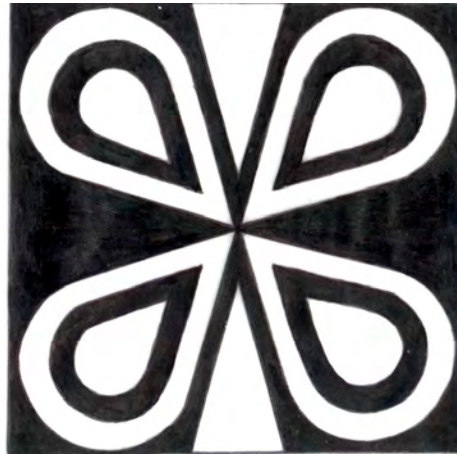


Fig.5.35. P. - *bunga*, flower,  
K.B. - *seng ntung*, fruit.

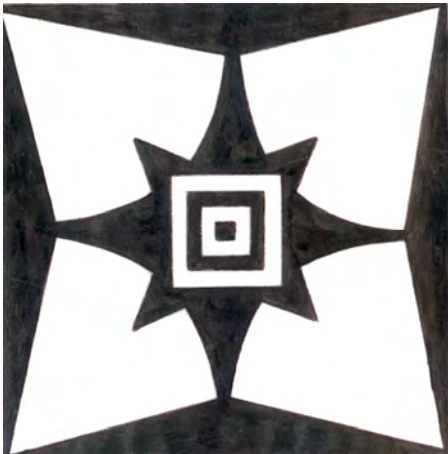


Fig.5.36. P. & K.B. - *bunga*, flower.

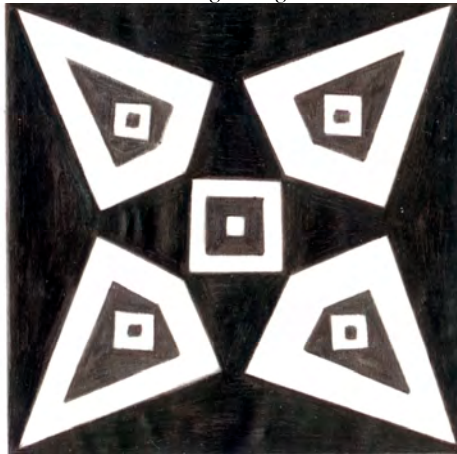


Fig.5.37. P. & K.B. - *bunga*, flower.

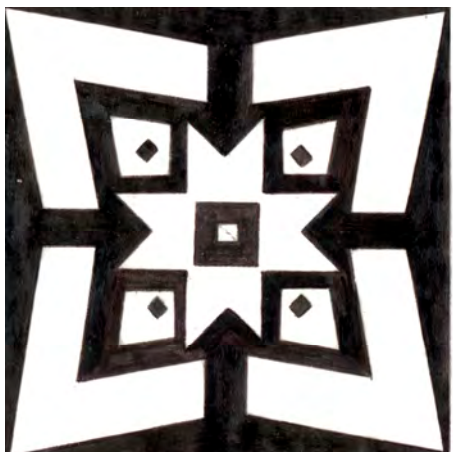


Fig.5.38. P. & K.B. - *bunga*, flower.



Fig.5.39. P. & K.B. - *bunga*, flower.

In the same manner as banded design, block patterns are taken from the world that the makers see around them, and fit into very similar categories. These patterns usually make up the bulk of the design found on an object with floral motifs making up a major part of these images:



Fig.5.40. P. - *betek bunga*, flower designs.  
K.B. - *bunga nyatap*, flower designs.

Other abstracted plant material sources can also be found in these designs, the pattern below being reminiscent of a young fern shoot unfurling:

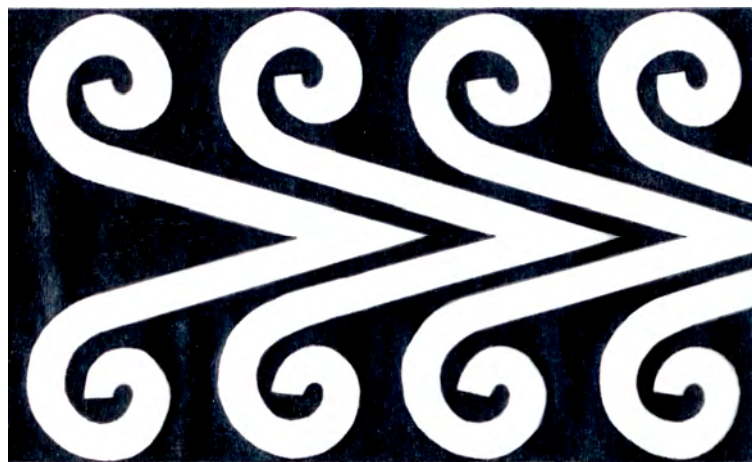


Fig.5.41. P. - *seperut*, shoots. K.B. - *bunga uduk*, flower.



The next set of designs have several different design translations given to them, hornbill birds,<sup>1</sup> people and blades. The disagreement on this varies from person to person rather than community to community. Although all the images can be seen within the designs, the first design gives a very strong impression of a person standing with hand on hips:

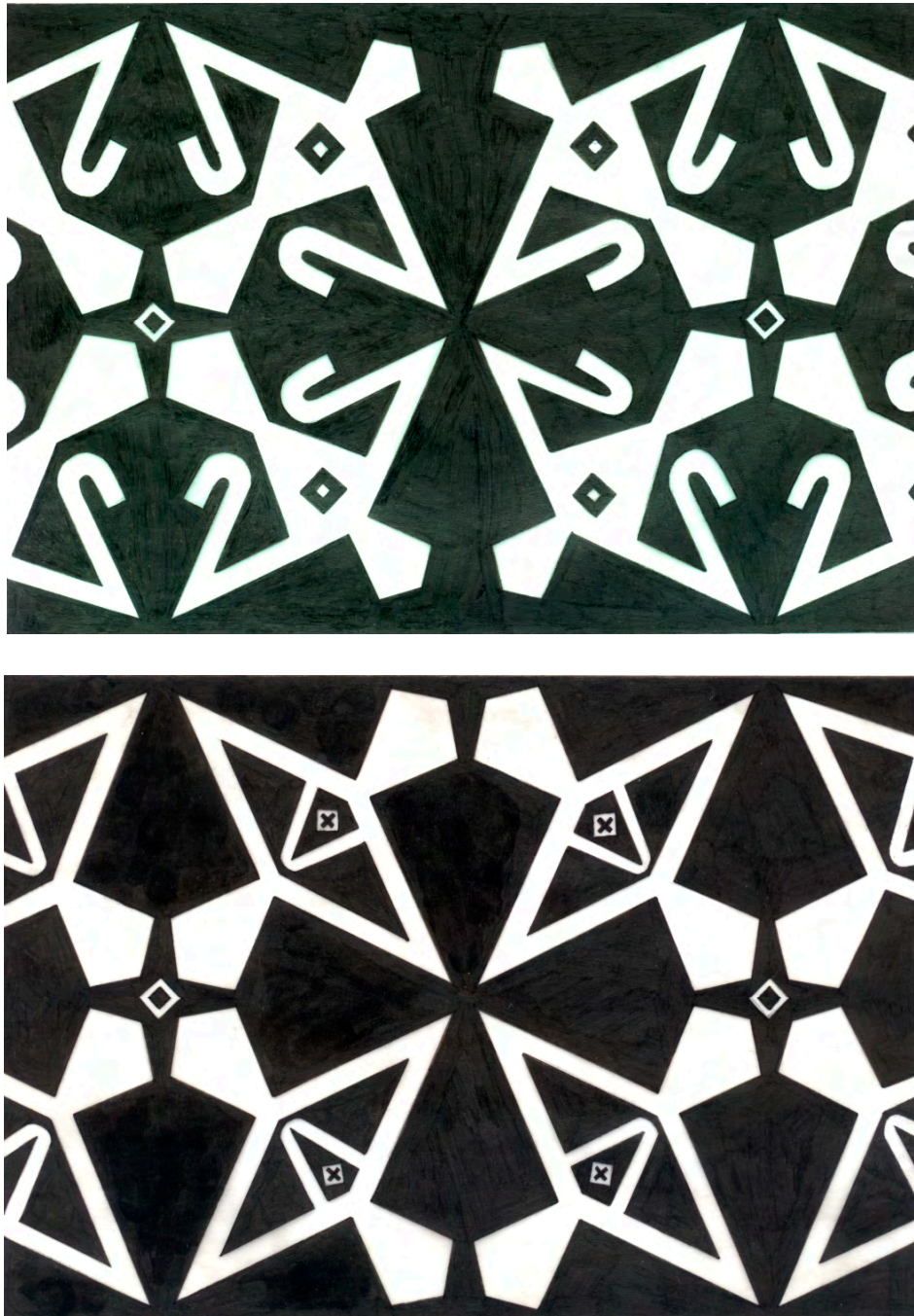


Fig.5.42. /43. P. - *betek kelunan*, people design or *betek atap*.  
K.B. - *oyat*, people or *nyatap*, blades.

<sup>1</sup> Examples if this, hornbill or bird design id. can be seen in Chin - *Cultural Heritage of Sarawak* 1980:73 & Dunsmore - *Basketry Sarawak Cultural Legacy a Living Tradition* 1991:191.

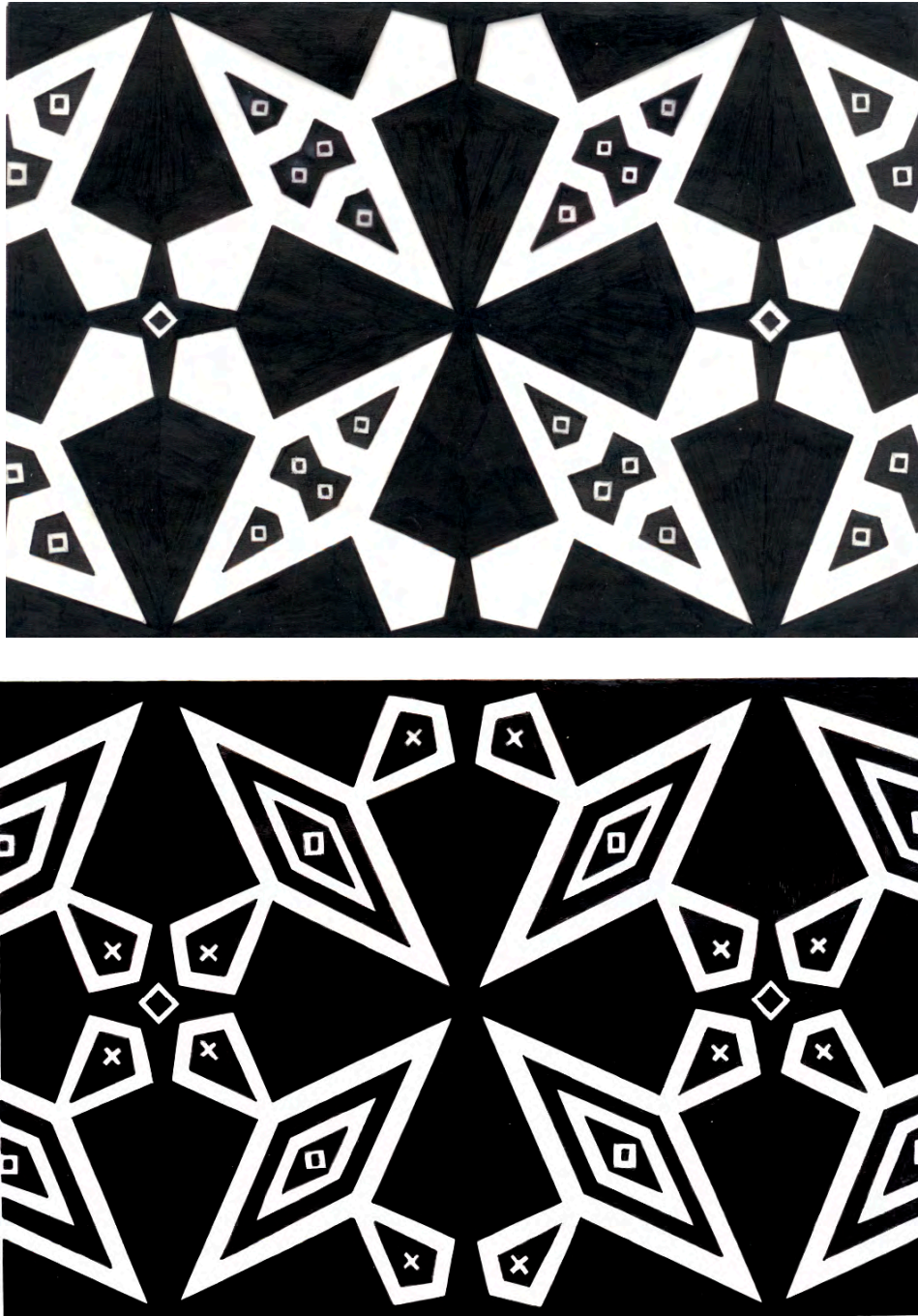


Fig.5.44. / 45. P. - *betek kelunan*, people design or *betek atap*.  
K.B. - *oyat*, people or *nyatap*, blades.

Of the people I asked about design names and meanings, none used the hornbill reference, which is the one most often found in the literature, but said that the designs showed more than one pictorial element. Shown the same pattern several months later, the pattern could be given a different meaning depending which element is first noticed within the design. This variance makes these designs far more complex to translate than those that form the basic woven designs.



Knot and blade symbols used in banded design are again found in block patterns. Blade and knife designs are called *betek atap pejut* by the Upper Baram Penan, *atap* being the word used for a spearhead. A plain diamond design being *anyap atap*.

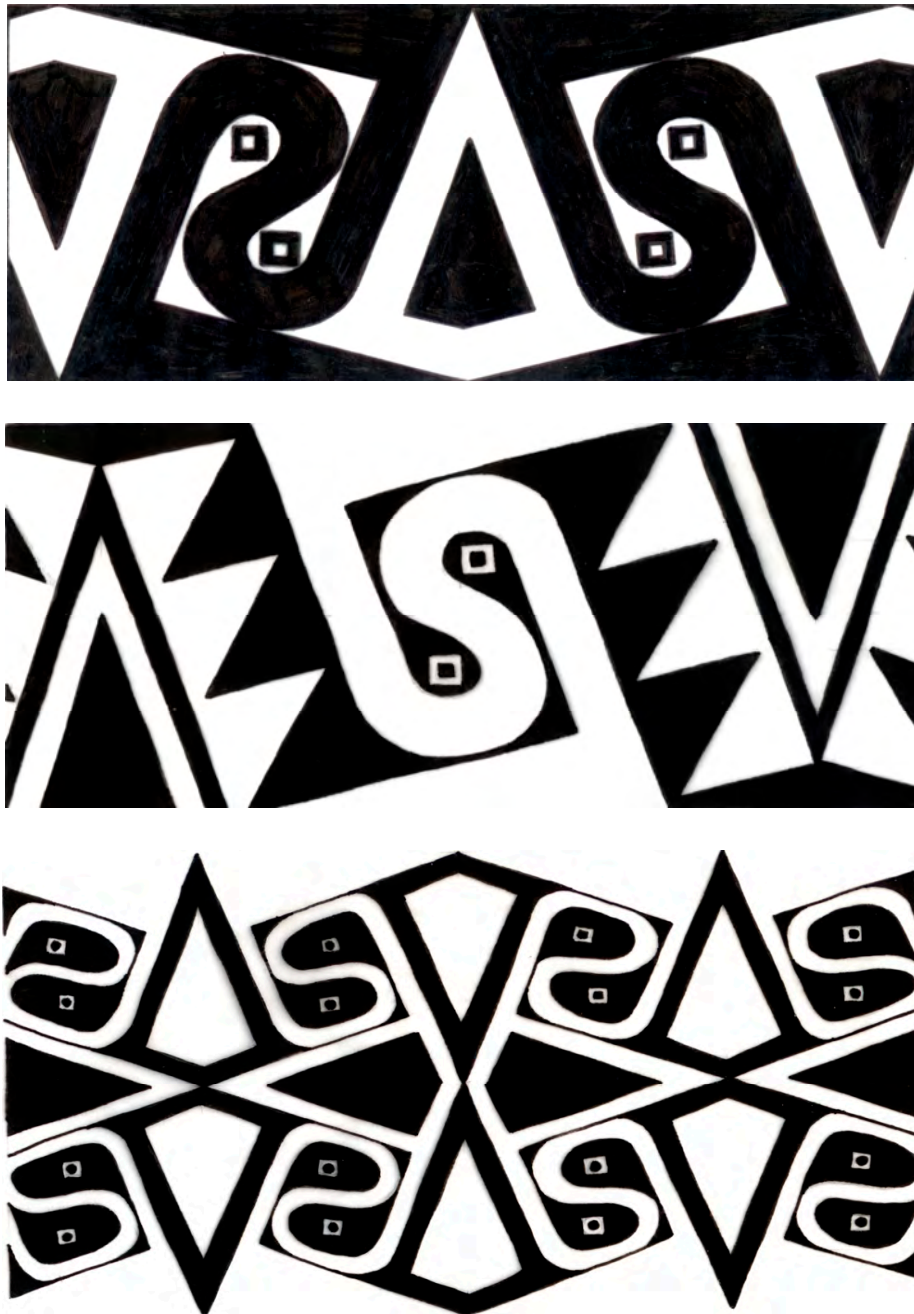


Fig.5.46, 47, 48 P. - *kejiko / atap*, snake / blade.  
K.B. - *bukut nyip / nyatap*, snake / blade.

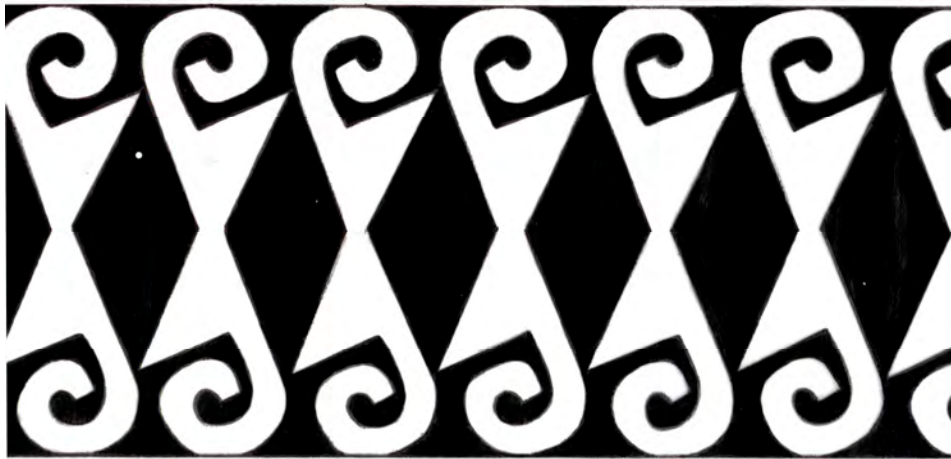


Fig.5.49. P - *atap*, blade. K.B. - *nyatap*, blade.

A further blade design is taken from swords called *kelewit*, and *kelawit*, a stick used to pull back vegetation, sometimes *atap* designs are incorporated within the pattern.



Fig. 5.50. P. - *kelewit*, sword; K.B. - *bunga*, flower.

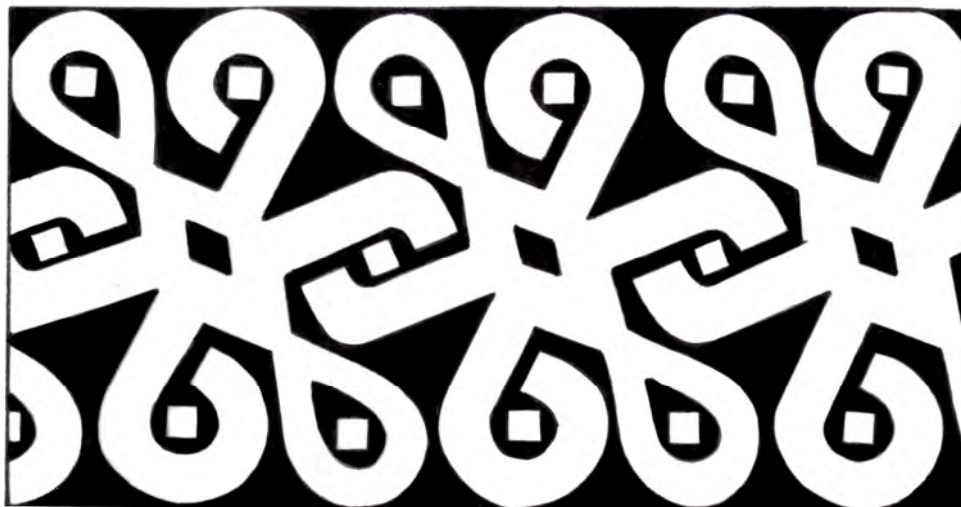


Fig. 5.51. P. - *kelewit*, sword; K.B. - *bunga*, flower.



Fig. 5.52. - P. - *kelawit*, stick; K.B. not known.

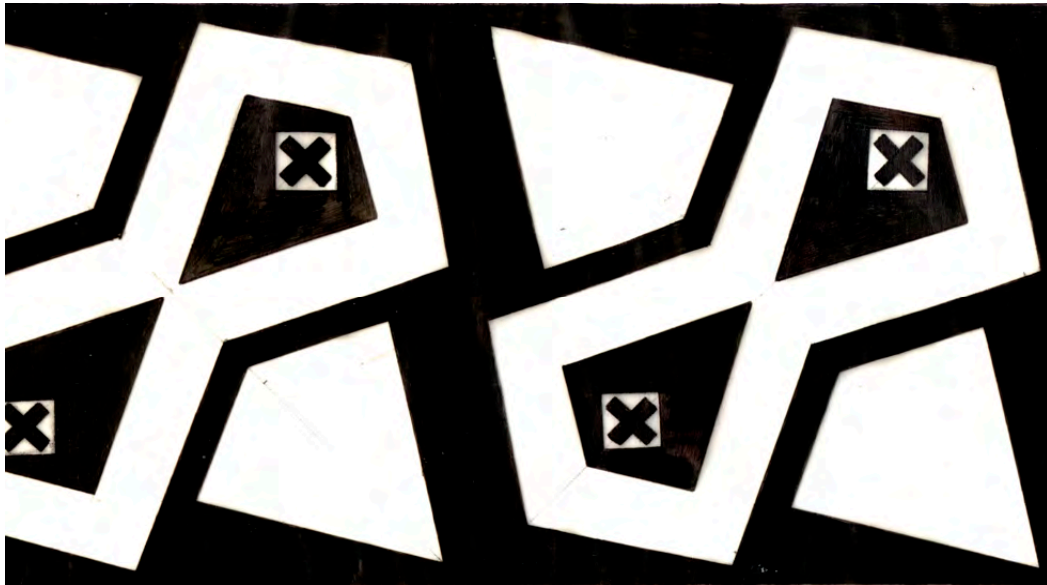


Fig.5.53 P. - *ahat agau*, baby carrier loops or *bunga*, flower;  
K.B. - *kapen madang*, aeroplane.

According to the Penan some designs have names but not necessarily meaning, fig.5.53 an example of this, is called by some *jeret ulun*, to others it represents people *kelunan*. The Badeng though see a completely different image and now call this design *kapen madang* meaning aeroplane. This is again an example of the Badeng giving new names to old designs.

Certain designs are described by some Penan makers as being taken from the rattan loops found on traditional Penan baby carriers, *tegalau*, the design being called *ahat agau*. Whereas other makers say they are taken from flowers, *bunga*.

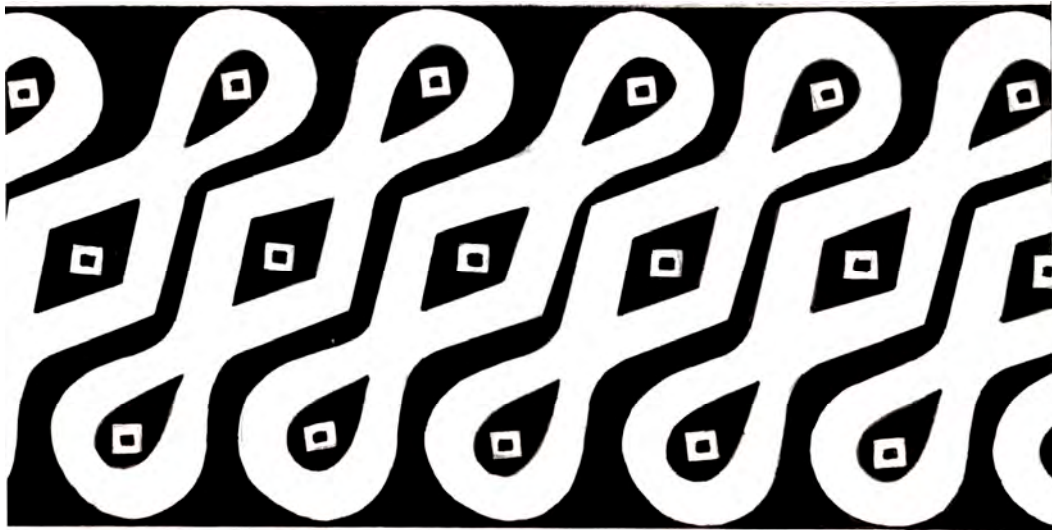


Fig. 5.54. - P. - *ahat agau*, stick or *bunga*, flower; K.B. - *bunga*, flower.

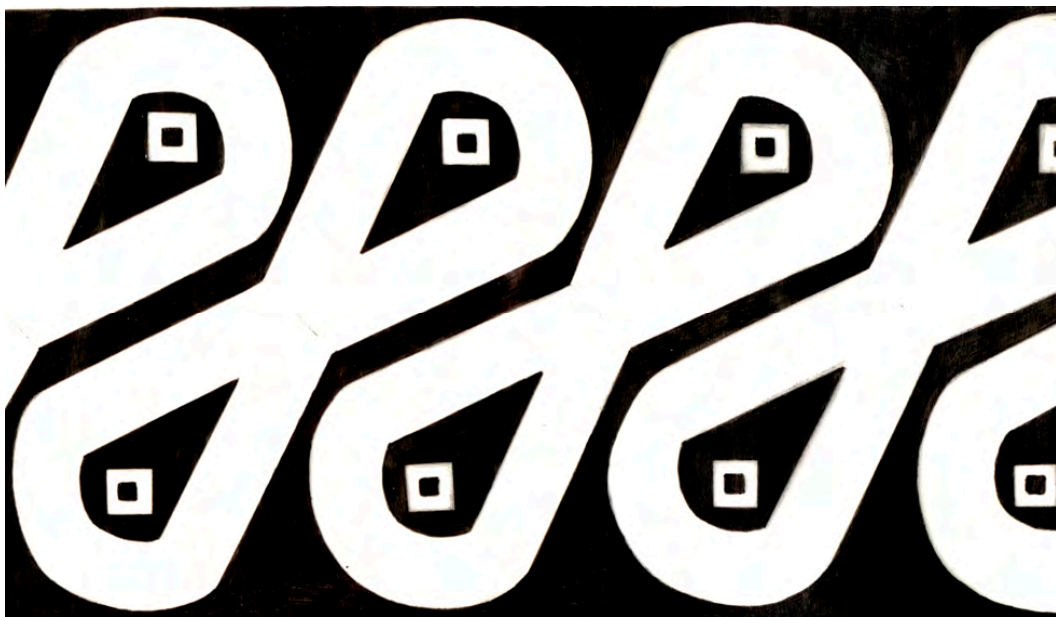


Fig. 5.55. - P. - *ahat agau*, stick or *bunga*, flower; K.B. - *bunga*, flower.

These are by no means all of the patterns seen and are not always used by all of the groups, the Kenyah Badeng not knowing the design illustrated in fig.5.52. Generally though, the designs are found in most areas, however as can be seen the translation of the image can vary widely.



The main problem found with the more complex patterns is the area where one end of pattern meets the other. In many instances it can be seen that the ends do not join correctly, making the pattern distorted in some way, due to several strands being left over or there not being quite enough strands to make the design meet and fuse seamlessly.<sup>2</sup>

Each design has a repeat number of strands needed to perform a pattern, but this multiple changes from pattern to pattern. For example if 44 strands are in use, then patterns using multiples of 2, 4, 11, 22 and 44 strands can be used, if 120 strands are in use, then 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 30, 40, 60 and 120. In many cases baskets are seen with incomplete patterned bands around the circumference, some makers will, when producing a large design, place into it a smaller version of the design to use up the additional strands (see pl.5.2.). The very accomplished makers will add in or take out several strands to make the pattern work, but when not done well, this can produce bulges in the side of a basket. It is only possible for a few strands to be introduced or reduced in this manner, they are generally replaced or lost as the next band of a different design is worked.

With carefully planning, it is possible to make sure all the bands worked will in fact join perfectly, the pattern is worked out by eye and vast experience is needed for this to be attained, much as 'Quechua weavers [of Bolivia who] configure the design space and its threads mentally' (Crickmay 2002:41)

Objects produced by a left-handed weaver can usually be spotted as their pattern rendition is usually a mirror image of those made by a right-handed worker. My drawn examples are all shown as right-handed images.

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<sup>2</sup> The Penan word for design is *betek*, continuous pattern is *sega'it*.

## Application of Design Motifs

Certain beadwork, painting and carving designs, in some areas where the people belong to a stratified society, can only be used by people of a particular class within the village. There are two main images: That based on the human form, (both the full form and solely the head) and that of the tiger.<sup>3</sup> Originally, it was only those of high birth who could use these symbols but now it is said that anyone is allowed access to the use of them (Darie Linchaw pers. com. 2003). This is not necessarily found in practice and families have not forgotten their position within the societies. The taboo is slowly vanishing due to the influence of the Christian church and the removal of the class systems through its teachings. However there has, at the same time, been an increase in designs based on Christian mottos, such as 'Jesus loves you'.

I found that the designs seen on Orang Ulu woven artifacts are used purely decoratively and do not traditionally have spiritual or class based meanings. The same has been found in the Pujungan District of Kalimantan during recent research with the Penan of Lg. Lameh Baru 'Designs are for decoration only, no religious or identity meaning underlies their choice.' (Puri *et al* 2004:8). Since the introduction of a written language people have started to incorporate local sayings, commemorative slogans, as well as the Christian mottos mentioned above into their weaving, but I found this to still be unusual.

The use of the tiger image is a peculiar anomaly, found predominantly in Orang Ulu beadwork and wood carving designs, but not their woven wares. What makes this strange is that there are no tigers in Borneo. Sellato (2001:720) states that tiger skins and teeth (I would also assume claws) were imported to Borneo from either or both Peninsular Malaysia and Sumatra, but no date for these imports was given. When I asked various people they often said that tigers were there (Borneo) 'before', No time scale is given to this statement and there

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<sup>3</sup> Further information on the use of symbols in beadwork can be found in - Sarawak Museum, Beads 1984:13 & Whittier, Social Organization and Symbols of Social Differentiation - 1973:169-172.



is no historical evidence to show that tigers have ever existed here. Other big cats do inhabit these areas, they include clouded leopards and marbled cats, none of which have striped fur. The closest animal to a cat which does have this type of stripe is from the civet cat family. Other motifs seen in these types of crafts include many spirits belonging to the peoples beliefs prior to the arrival of Christianity. An example of this is the *aso* or *asu*, commonly thought to be a dragon dog. A large number of spirals are also found in the work of the Orang Ulu.

Patterns for woven objects are chosen by the women who manufacture them. Knowledge of who originally produced the traditional designs has been lost completely from the record. The new designs, like the use of lettering for mottos and names are produced by the women on a trial-and-error basis. The design motifs found on most other decorated surfaces are produced almost entirely by the men, as has already been mentioned in reference to beadwork, exceptions being simple designs such as those found in the centre of sunhats.

Where objects are produced by men they will both design and produce the image, either by carving or painting, this is best seen, illustrated on shields and paddles. A repeat pattern decoration has recently been applied by spray painting through a stencil on to the room fronts of the veranda at Lg. Geng Badeng. The motif is said by Darie Linchaw (pers. com. 2005) to have been designed by one of the male school teachers residing there.

# Objects for a Subsistence Life

## RICE FARMING

With the exception of nomadic Penan, the Orang Ulu, along with the other indigenous peoples in Sarawak are subsistence farmers. Each family relying upon the crops produced for their survival. The staple crop across the whole region is rice. Two methods of farming are found in the communities I study, the first and most extensive method is hill rice production, the second, found only in Kelabit and Lun Bawang areas (the settled Penan in these area often use this method, learned from their neighbours) is wet rice production. In both cases variation can be found in planting and harvesting times due to differences in climate and altitude (Whittier 1973:89). Rice when it is growing and prior to de-husking is known as *padi*.

### Farming Methods

#### Hill Rice Production

This type of rice farming is chosen primarily because of the topography of the area,<sup>8</sup> mountainous ridges, with few areas of swamp or land that could be irrigated without the use of terracing. The farms are cut out of primary and secondary rainforest.

#### *Clearing*

After choosing a swidden<sup>9</sup> area the site is prepared for farming. The initial step is to clear the land of as much vegetation as possible. First the undergrowth is removed using a *parang* and a hooked stick (*kelawit* - Penan). Then the trees are felled, smaller trees are hewn using *parang*, larger trees are cut with a chainsaw, previously an axe or adze would have been used. Everyone of working age within the family helps with this land clearing, the work they carry out depending on the strength of the individual (Whittier 1973:90), generally the

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<sup>8</sup> For land selection see Sindju. 2003: 49 - 64

<sup>9</sup> The basic definition of swidden farming is: the shifting cultivation of padi using slash and burn methods.

felling of large trees falls to the men, but in some circumstances, for instance, where the men are working away, the women will take on this task themselves.

### ***Burning***

The second step is to burn off the vegetation that has been cut, and leaf litter. For the burn to take place the vegetation has to be thoroughly dry and there is a lull in the work at the swidden whilst this takes place. If unseasonable rainfall occurs a complete burn of the swidden will not occur, and the following harvest will be poor (Whittier 1973:90, Dove 1985:131, Freeman 1970:177, Janowski 2003:30, Puri 2005:167). The burn is carried out using long torches to set the fires, at Lg. Geng, I found these were being fuelled using petrol and due to the dangers only the adults of both sexes were involved in this stage, I myself was not allowed to follow as I had no experience and therefore was viewed as a liability. Clearing the ground and burning makes subsequent work far easier, the resultant ash acts as a fertilizer for the crop.

### ***Planting***

Planting follows closely after burning to prevent the growth of weeds. This is carried out as a family; as reciprocal labour; or even as a *gotong royong*<sup>10</sup> where everyone joins together to help. One example of *gotong royong* I came across was villagers helping their elderly neighbours to sow their fields. Generally the men drill the holes in the ground for the seeds, with a dibble stick and the women, carrying a seed basket tied at their waist, place a few seeds into each of these holes.

### ***Weeding and Pest Control***

The task of weeding is carried out by all the family members, I have also seen cases in Lg. Lellang of friends joining together to weed, talking whilst they work and taking it in turns to visit each others fields. Often vegetables are

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<sup>10</sup> For further information on *gotong royong* see Sindju 2003: 54 - 56, Janowski 2003:25, Puri 2005: 167/8.

planted in amongst the padi. According to Puri (2005:170) The Penan Benalui women of Kalimantan do much of weeding, although the men often accompany them to give aid, children 'hurried' from school to help.

Various methods of pest control are employed including rattles, scarecrows, traps and fencing.<sup>11</sup> Trapping is usually the remit of the men whilst the other methods are used by the remaining family members. The presence of people in and around the farm acts to scare many predators.

### *Harvesting*

When the crop has ripened it is cut, one stem at a time, using a small palm held knife with a blade set vertical to the hand in its handle.<sup>12</sup> The cut padi is placed into a harvesting basket secured at the waist. When the harvest basket is full it's contents are poured into a larger transportation basket. It is these large baskets which are used to carry the rice to the farmhouse or village. Both men and women are involved in this very labour intensive work.

### *Threshing, Winnowing and Drying*

The padi is spread onto a mat and allowed to dry. To remove the padi from its chaff, it is threshed using the feet (see pl.6.53), sieved to remove the large pieces of chaff, then winnowed. Once all the extraneous matter has been removed it can be stored until needed. When required it is poured into a large mortar (see pl.6.71. & 2.), the remaining husk is removed by pounding with the pestle, then separated from the rice by further winnowing.

### **Wet Rice Production**

Wet rice production is carried out on areas of flat land such as the Bario Plateau or lowland areas around Lawas Town. The land used is either naturally swampy, (Freeman 1970:35) or irrigation methods are used.<sup>13</sup>

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<sup>11</sup> For further information on rice predators and protection methods see Dove 1985: 240-262.

<sup>12</sup> See Freeman fig.8. 1970: 207.

<sup>13</sup> See Okushima 1998: 75 - 6.

The basic farming methods are the same as those employed in the production of hill rice, although the burn is not seen as so important, as the ash is not as necessary for fertilization of the fields (Freeman 1970:112). Seeds in this case are generally not planted by dibbling, (unless the ground is dry at planting time) but cast on the surface of the standing water. All the other stages are worked in the same manner. I have seen two harvests collected in a single year from a single wet swidden, but this is not the norm.

### **Fallowing**

In both types of farming the fields are allowed to fall fallow and new swidden sites are found. The fallow period depends to a great extent today on the pressures of land usage in the area, but is always several years.

### **Farmhouses**

Many farms are situated at a great distance from the village and so the family builds a small house at the farm where they can stay for a long period while farming is carried out. In some cases family members will take it in turns to stay at the farm (often during the growing period, to scare predators away).

### **Poor Harvests**

In times of poor harvest, where money is available rice can be bought, or exchange of labour given to make up any short fall. These are not always possible; there is not always money and if the harvest has been poor for everyone within the community others may not have rice available to barter for work.

## Equipment Used in the Cultivation of Rice

### Seed Baskets

Made by the women in the family, these small baskets are used to carry the seed padi for planting, they are generally worn tied at the waist, in the most comfortable position for the user, but some people prefer to sling the basket across the body to the waist, from one shoulder. They are then carried up and down the fields, so that the farmer can easily reach into them to grab a handful of seed. Seed baskets are usually high sided to prevent the accidental loss of seed.

#### *Krien Styles* - K.B., U.B.

The style of *krien* seed basket made by the Kenyah Badeng and the Uma Bakah Kenyah differs distinctly.

The Badeng style *krien* is square based, using either a 2/2 or 3/3 plaid with *mata* to turn the corners. The width of the base is between 10 - 15<sup>2</sup> cms. Once the corners have been turned, the sides are woven. Although this is usually an unadorned weave, people do occasionally choose to incorporate woven decoration. When the required weave height has been achieved, approximately 15 - 20 cm, the top is turned over for the rim. Each strand in the front row passes behind the next two strands in this row, then folds at 90°, before travelling back through the weave once where it is cut off. The back row is cut off level with the top. A thick rattan is then split in half lengthways and all four ends tapered. The ends of each piece are brought round overlapped and tethered.

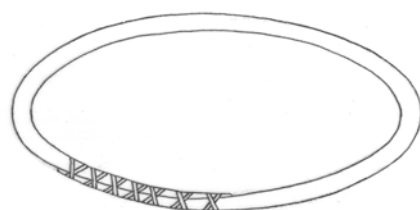


Fig.6.1. End attachment for rattan ring.

One piece is placed on the inner side at the top and the other on the out side in an adjacent position. A second thinner piece of whole rattan is then bent into a hoop and placed on top of the first, the two are bound together through the weave, around the entire circumference of the basket.

Two *kisew* are attached to this rattan rim so the basket can be strung around the waist for use, it is usually attached with a piece of string - *tali*. This style is also seen in use by the Kenyah/Berawan at Long San on the Baram river.



Fig.6.2. Kenyah  
Badeng *krien*.

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The Uma Bakah *krien* is a small rectangular pouch with top flap, which sits against the body. The *krien* is again started from the base in a 2/2 plaid weave, with *mata* to form a rectangular shape, approximately 7 x 20 cms. When the corners have been turned the sides are built up to a height of about 15 cms, at this point a strand of rattan is placed along the two short sides and one of the long.

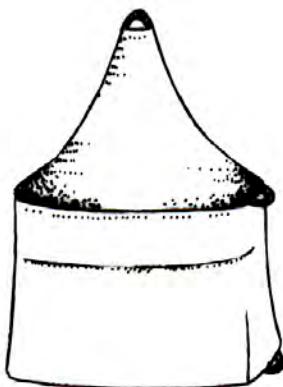
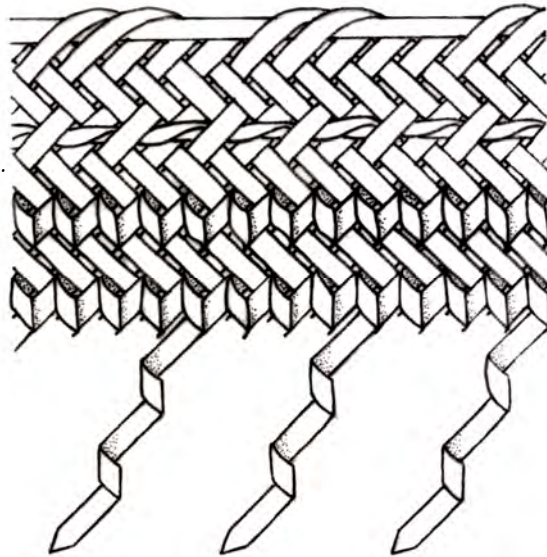


Fig.6.3. Uma Bakah  
*krien*.

The sides are edged by having their front strands pulled behind the two strands next to them, then over the rattan and are fed back through the weave at 90°. The back strands are then passed over the front of the rim and again woven through several of the weaves. In some cases a pattern is built up here, in rows, by twisting each piece of rattan strand as it passes over a double weave.

Fig.6.4. Decoration seen on an Uma Bakar *krien*.



The remaining strands of the forth side are used to make the triangular flap, this is produced by continuing the 2/2 plaid weave. The strands closest to each side of the rim edge are used as a guide edge for the flap, as they form a triangle where they meet. As each strand reaches one of these two strand positions, it is no longer woven, but folded over the top of it, to the reverse and fed back into the weave before cutting it off. The few at the apex fold to the back at 90° to their original position and are again fed into the weave. A *kisew* (see fig.4.30) is then attached to this flat top edge.

*Kisew* are also attached to the sides of the rim and again at the sides, just above the base. A string runs through both *kisew* on one side and the one at the top, before proceeding down the other side and being tied to the other end to finish. This strand is long enough to allow the shoulders to be passed through so that the *Krien* can be worn on the back like a rucksack.

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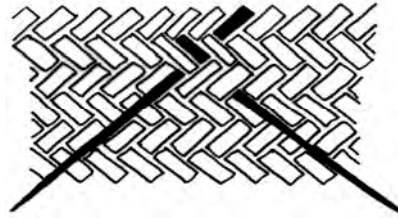
The *tyo* made by the Punan Bah is exactly the same in style and manufacture as the Kenyah Badeng *krien*, but is highly decorative, being dyed red and black, now often painted; the weave is also usually carried out in a complex pattern, after the corners for the base have been turned. *Tyo* are used exclusively for seed planting.

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Also made by the Punan Bah is the *julujok akar*. It is slightly larger than the *tyo* and is used either for the purpose of carrying rice for seeding or for harvesting. *Julujok akar* are produced from a square base with *mata*, about 7 cms in diameter. The sides, once the corners have been turned, have extra strand additions added in pairs, these additions are made regularly up the entire length of the sides.

Fig.6.5. Addition of paired strands.



Positioned half way along the sides and at the corners, these additional strands cause the weave to flair. The basket is about 20 cms in height. Like the Badeng *krien* the rim is made up of upper and lower rings of rattan, the lower rings being placed around the top of the weave inside and outside. At this point its manufacture becomes like that of an *ingen* (see fig.6.19) as it has four split rattan legs, running from the base, where they cross forming an x, up to the rim where they are bound into place (this is exactly the same style found in Penan Talun *ingen*). These legs are usually dyed red in colour, using rattan fruit or paint. *Julujok akar* are generally woven in black and red with decoration incorporated into this weave like the *tyo*.

### *The Saging style- Kl., L.B. - buku'*

This seed basket is woven from *wei sega*. The base (Kl. -*bukar*, L.B. - *raken*) of this small basket, approximately 30 cms in height, is started in the usual way for a square base in a 3/3 weave, using *mata*. This is fully described later in the section, *ingen*.

Once the base has been woven to approximately 10 cms square the corners are turned and the first two rows of the sides completed in a 2/2 plaid weave, which continues up the sides. Extra strands are now added in pairs, one in each direction. They are placed at each corner and half way along each side, giving

16 extra strands in all (see fig.6.5.). This weaving causes the width of the basket to increase. The height of the basket is woven again for about a 1.5 cms when strand addition is carried out again. The additions are repeated approximately 4 times in all, depending on the amount of side flair wanted. Often a new basket is woven over an old one, so that the size and shape can be followed, giving a guide for when to add in the strands.

If a pattern is desired it is woven into the sides, at the same time as the strands are being added. Occasionally, a pattern will also require a couple of extra strands adding in to complete it properly, strands are, therefore, again added as needed. When the weave has been made up to the necessary height the rim is turned by passing the strands one by one, around two strands and then back through the weave twice at 90° to its original direction (see fig.4.21).

From this point *saging* and *buku'* vary greatly from the *ingen*, as they do not have legs, but instead, vertical straps called *berpit* (Kl.)(L.B. - *repit*) and a base of large rattan. These straps, along with the base, are the next parts to be produced; and are made from 12 sticks of half rattan. Only rattan, no other material is used for this.

The base itself, is made from a thinned piece of large rattan. It is used, not only for strength, but to keep the contents dry when placed on the ground and to stop wear and tear on the woven base, it also prevents accidental cutting of the weave. The rattan is folded into a square, by further thinning the rattan at the corner positions, to allow it to bend easily at 90°. The second end is then passed to the inside, where it is bent into a "wave" shape, with its crest touching the opposing side, before returning to its original side and tucking in just short of the corner, more "waves" are produced for the Lun Bawang *buku'* (see over). The rattan is nailed together to keep this shape.

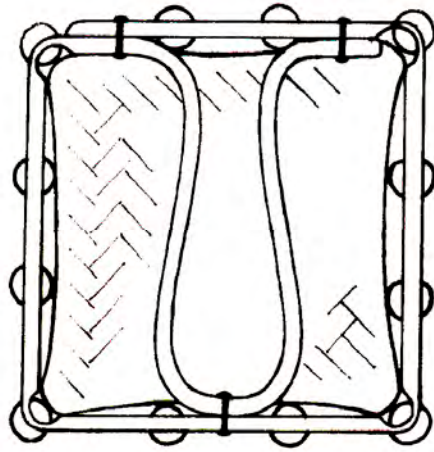


Fig.6.6. A Kelabit base showing the positions of the side strapping.

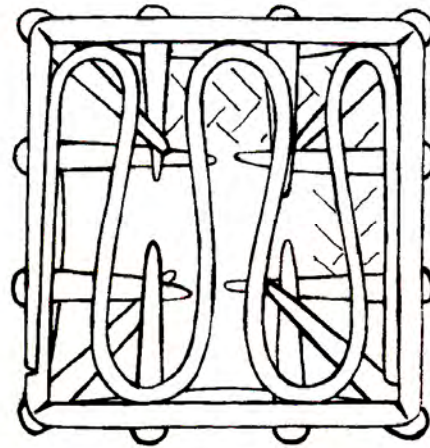


Fig.6.7. A Lun Bawang base showing the positions of the side strapping.

The straps (as can be seen above) are positioned: one on each corner and two, equidistant, along each side<sup>14</sup>. The half rattan has to be long enough to reach from the basket bottom on the inside (where it is tapered into a point); up the inside, almost to the top, where it passed through the weave; before coming back down the outside, piercing the rattan base rim (see below) terminating in a taper. On *saging* the rattan then doubles back on the inner side of its self, against the outer weave for the sides.

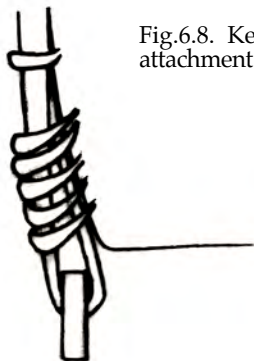


Fig.6.8. Kelabit base attachment.



Fig.6.9. A Lun Bawang base attachment.

<sup>14</sup> This strap position is always the same on larger baskets, but on baskets as small as *saging*, they are some times moved round slightly so that they do not, necessarily, run up from the corners, but are all positioned on the sides.

The holes for the strapping are pierced through the large rattan by heating up the end of a chisel, and pushing it through the rattan. The heavier work, of strapping and the base, is traditionally carried out by a man; although now women will often carry it out themselves, this is often the case for Salalang at Lg. Lellang; men having other tasks or employment to carry out. The process is very hard and a lot of strength is required. It is imperative that the rattan is still green, otherwise it will break on bending. Salalang and I had many attempts to make this base with dry rattan, each one splitting or breaking in some way.

The base on a Kelabit *saging* is bound into position, inside and out, using a rattan tie passed around it and through the weave, working from the top of each strap down towards the bottom, where it is woven over the strap and in and out of itself to finish. The Kelabit style of base is becoming less and less common now, as fewer people turn back the strapping on its self or add the decorative weave, this is due to a loss of this technical skill amongst the makers. It is usual today to see the Lun Bawang style of base being used by the Kelabit.



Fig.6.10. A Kelabit style strap and base attachment weave, now rarely seen.

The vertical straps, in Lun Bawang - *repit*, are positioned like those of the *saging* and pass into the square rattan frame - *raken*, in the same manner (see fig.6.9). The ends of the *repit* are not doubled back, but left sticking into the centre of the base. To prevent them from coming free, a loop of rattan is passed around the *reken* above the *repit*, to the inside and then passed back around the *repit*, where it is tied off to the upper side.

The rim is made by both men and women. It is made up in several parts, starting with two pieces of rattan that have been split in half, cut to length and tapered at both ends to make sure they overlap securely, without increasing the width of the bands. One half is positioned on the inside of the basket, the other on the outside, so that they are right against the edge of the basket, they are tied into place to hold them.

The second band is positioned slightly lower than the first, around the circumference. Again one half is put on the outside, over the top of the straps. The other band is placed inside, under the strapping, where the strapping is bent over to travel back down the inside. They lie against each other separated only by the weave (some makers choose to omit this strap).

A length of large rattan is cut to form a rectangular section, approximately 1.5 - 2 cms high. This has to be long enough to form a circle with the same circumference as the top of the basket, whilst allowing the ends to overlap by a few centimetres. A whole rattan ring is also made to this size, with the ends tapered and overlapped, they are bound to hold them together. These two circlets are tied on to the top of the basket and spaced using a carved piece of wood, in an E shape to separate them from each other, and the top of the basket.

When everything is in place a strand of high quality *sega mas* rattan is threaded over and through this thick rattan band, passing over the top ring, down to the bottom, where it pierces the weave just below the rattan band. It then comes out just above this band to the left, passes over itself to the right, through the weave to the back. From here it then again moves to the left, but at a diagonal, to where a hole is pierced through the rattan band, along a centre line, the strand is then pushed through this. Next it goes diagonally down to the right and passes through the lowest gap between the rings where it wraps around

itself before going back up to the pierced hole, to again come out at the front, finally moving diagonally up to the right and again wrapping around itself, through the top gap.

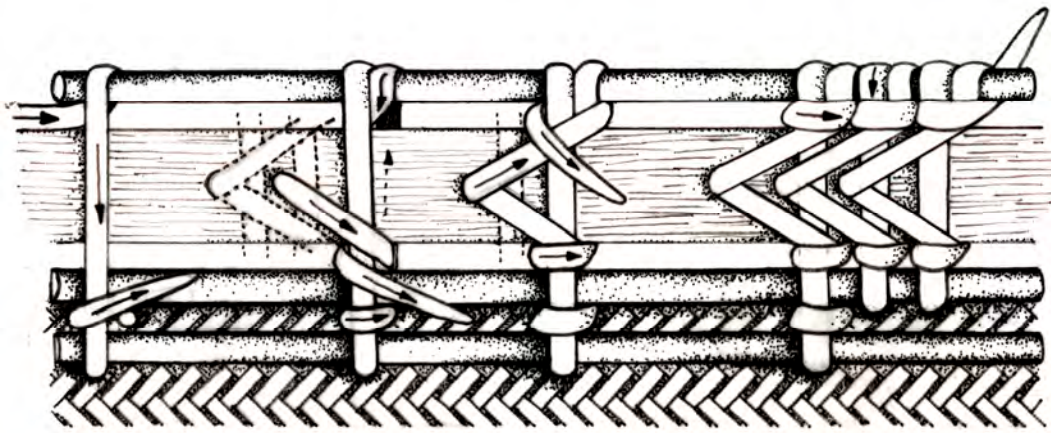


Fig.6.11. Movement of the rattan to build up the decorative rim ties.

This process is repeated around the whole circumference. The weave has to change though when it is above one of the straps, as it cannot go through the thickness of the rattan here, and so the weave is pierced above the lowest ring and the pattern continued from this point.

Carrying loops (Kl. & L.B. - *lalid*,)(see fig.4.30) are attached to two of the straps, just below the rim. They are made from a strand of rattan, in the same way as the Kenyah Badeng *kisew*. A belt of fabric, barkcloth, string or woven rattan is then threaded through this, tying it into place around the waist.

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The Lun Bawang seed basket, *buku'*, is also worn at the waist, by tying it in place. They are far more highly patterned today than previously, as the rattan is painted in bright colours with a design woven into the sides up the entire basket.

The rim is made in exactly the same way as a *saging* rim, and is called *beped*. The action of making the *beped* is called *meped*. The belt attachment loops, *lalid*, protrude from the rim like "ears", which is the actual meaning of the word.

Any horizontal strengthening strapping added by the Lun Bawang around the circumference of the basket are called *eret*. They are added when the quality of the rattan is poor, or for decoration.

A smaller version of this basket used for general carrying, rather than for seed planting by the Lun Bawang is called a *saging*, like the Kelabit name.

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Some of the Penan in the Upper Baram use a basket very similar to the *saging*, for which they use the name *ingen*, this should not be confused with the larger *ingen* made by the Kenyah and others.

It stands about 25 cms high with a 3/3 plaid weave base and 2/2 plaid weave sides. It is slightly simpler than the *saging*, in as much as it only has eight straps, one at each corner and one in the centre of each side.

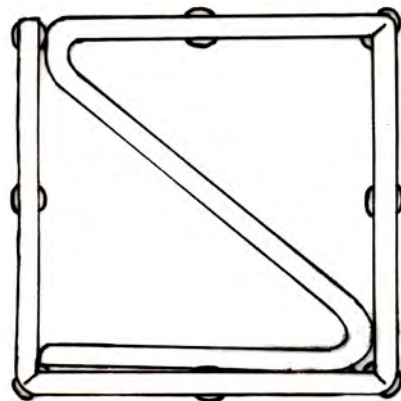


Fig.6.12. Baram Penan style base.

The base, *lotok ingen* has only a single diagonal of rattan across the square. This base is held together with rattan ties rather than nails.

The rim, called *ujun*, is completed in the same way as the one on the *saging*. It is again attached to a belt at the waist by two loops, *kematak*, formed at the rim. The belt, called *le'wa* is made of string or sometimes cloth.

**(Tools used for weeding can be found in Chapter 7.)**

## Harvesting Baskets

Produced by the women, generally for use within the family, harvesting baskets are used to collect the rice as it is being cut, and are, therefore, small enough to be carried for long periods of time. As each stalk of rice is cut, it is put into the basket. When the basket is full, the rice is transferred to a larger basket as already mentioned (see: holding & transportation baskets). The basket can then continue to be used for the rest of the field.

These baskets can be divided into five types: the *ingen* style, woven by the Kenyah Badeng, Uma Bakah Kenyah, Upper Baram Kenyah, Penan Talun, Bhukat, Kejaman, Sekapan, Punan Bah and some Upper Baram Penan; a variation of the *ingen*, using a plain weave, made by the Kejaman and Sekapan; the *benen* style basket of the Kelabit, Lun Bawang and other Upper Baram Penan; the *bu'an budok* made solely by the Kelabit; and the *lasok* produced by lowland Lun Bawang.

*The Ingen* - K.B., P.T. & Bh., Kj. - *azat*, P.B. - *alat*. (See appendix 6, MDB 04 Durham University Collection)

The *ingen* is a carrying basket on straps, worn on the shoulders. It is round at the top, and becomes square at the base. Running from the rim to the base are four legs, on which it stands. It occasionally has a lid (*sa'ap* - K.B.), again changing from a square section to a round one at its edge. It is produced from closely woven rattan.

Almost all the communities who weave *ingen* style harvest baskets produce them in a similar manner. The basket, initially described, belongs to the Kenyah Badeng of Lg. Geng who were the first group to introduce me to this style of basket and as such it was the first basket of this size that I produced, under their tutelage.



In most cases the *ingen* is woven diagonally, from the centre of the base (*abut*), using a tight 2/2 plaid pattern. 'Along the centre lines, which divide the the base into four quarters, a guide point called *mata* (eye) is made at every second round of a 2/2 twill.' (Dunsmore 1991:204) (see fig. 4.14), which helps to form the corner (*tikung*), allowing for a continuous 2/2 plaid to be employed up the sides of the *ingen*.

Once the base has reached the desired size, the strands to form the corners are interwoven diagonally to their starting position by approximately 90° and the 2/2 twill weave is continued up the sides (*osa*). In the Kenyah Badeng *ingen* two extra strands are introduced into the weave after several centimetres of the side walls have been completed. The extra strands are placed, two at each corner edge and two in the centre of each side crossing each other, often producing a single or a triple strand weave as the 2/2 weave rights itself (see fig. 6.5). These extra strands help to widen the circumference of the sides. This is not seen on the Penan Talun or Bhuket *ingen*.

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The Penan Talun sometimes weave on a frame formed from an old *ingen*, to help keep the size and shape even.

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A variation of weave, is again diagonal but the base is formed from a 3/3 weave, which uses *mata* as a starting point, single, double and triple weaves are used to keep alignment (see fig. 4.15). This 3/3 weave can continue to the rim or it can continue for only a couple of cms up the sides, where it then changes to a combination of 1/1, 2/2, 3/3, 4/4 weave, which forms an abstract pattern. Toward the rim it then becomes a 2/2 weave to finish. This modification tends to produce a much more flared basket and is more often seen made by the Kejaman.

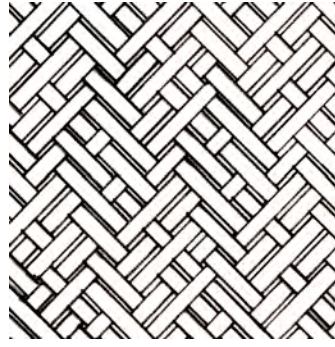


Fig.6.13. Abstract pattern sometimes seen on *ingen* & *azat*.

The top edge is produced by passing one of the directions of strands behind the next two strands running in the same direction; so that it lies flat, diagonally to itself. It is then woven over three strands and under three before being cut off (see fig.4.21). The same process is then carried out with the next strand, until all the strands in one direction are cut. The opposing strands are left standing up and are just cut to the level of the top of the basket.

The rim (*sa'at*) is produced by placing two, sometimes three, rattan hoops, bound to shape, around the top edge. The hoops are then tied into place, by piercing the weave, using a *solat* and passing a rattan thread through the hole and over the top of the hoops, in a variety of decorative ties. The number of hoops is dependent on the group manufacturing the *ingen*.

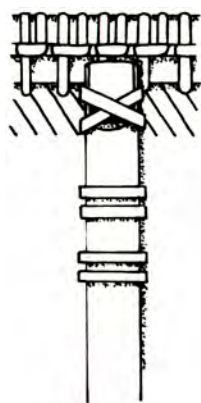


Fig.6.14. Kenyah Badeng rim and leg ties.

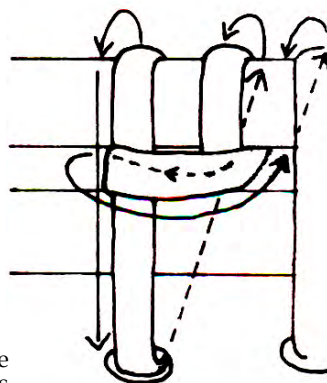


Fig.6.15. Movement of the rattan to form the rim ties.

The Kenyah Badeng prefer to use only two hoops, the Penan Talun use both two and three hoops.

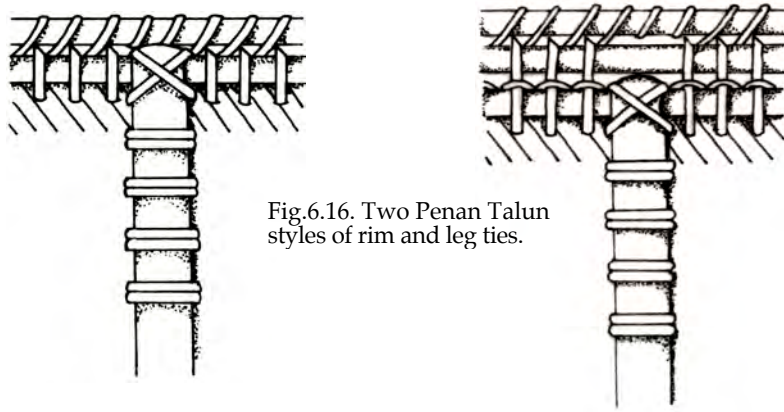


Fig.6.16. Two Penan Talun styles of rim and leg ties.

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The Bhuket generally choose the three rim style. The tie design will vary according to the community it comes from.

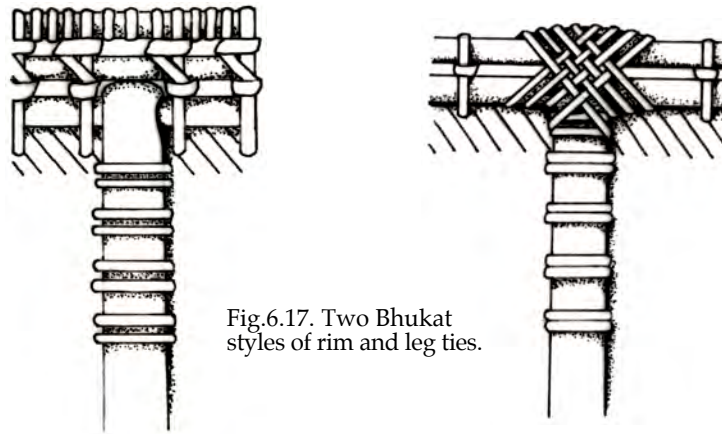


Fig.6.17. Two Bhukat styles of rim and leg ties.

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The Kejaman use a two hoop system, but unlike most of the others, the lower hoop is split, with one half attached to the inside and the other to the outside. The hoop is held in place with stitches through the weave (occasionally this is seen in some Penan Talun varieties).

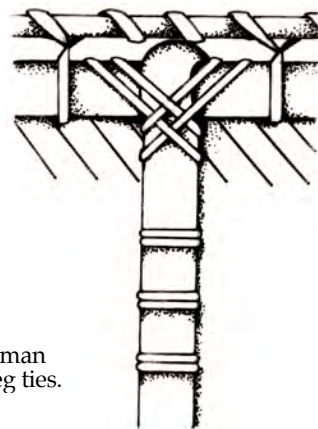


Fig.6.18. The Kejaman style of rim and leg ties.

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All varieties of *ingen* have legs (*taket*); the style of these vary according to the community from which they come. In the Asap area, the legs are predominantly made from a length of sturdy, whole rattan, placed at each of the corners. Kenyah Badeng, on rare occasions, will use wood. The legs run the entire length of the sides, from the rim, to just below the base and are held in place by stitching through the weave, first using the *solat* to punch holes. A rattan strip is passed through the hole and is carried over the rattan *taket*, passing through a second hole on the other side. The strip is then passed through the first hole again and makes a second pass over the rattan, before being carried up the inside of the basket to the position of the next stitch.

On Kenyah Badeng *ingen*, a secondary base called a *tempan* is incorporated into the legs, forming a very strong frame. This is made from a square frame of rattan, notched at each corner; the fourth corner being formed from the two ends, cut at an angle, to join neatly. Strips of rattan are tied across the frame, the middle of each strip lying across the centre; these tied lengths become passive strands within the weave. The remaining lengths of rattan, issuing from each of the ties, are then woven through the passive strands, diagonally, to the sides of the frame. The lengths are looped around the sides and are then woven back through the passive strands, diagonally to the opposite side; forming an open hexagonal weave (fig.4.22). When all the strands from one end have been woven once, the pattern is continued by weaving the strands from the other end in the same way, producing a tight weave, the ends are then looped back through the weave, and cut off. This frame is fixed closely to the base of the *ingen* and tied tightly to the *taket*, thus strengthening the original base and the *taket*.

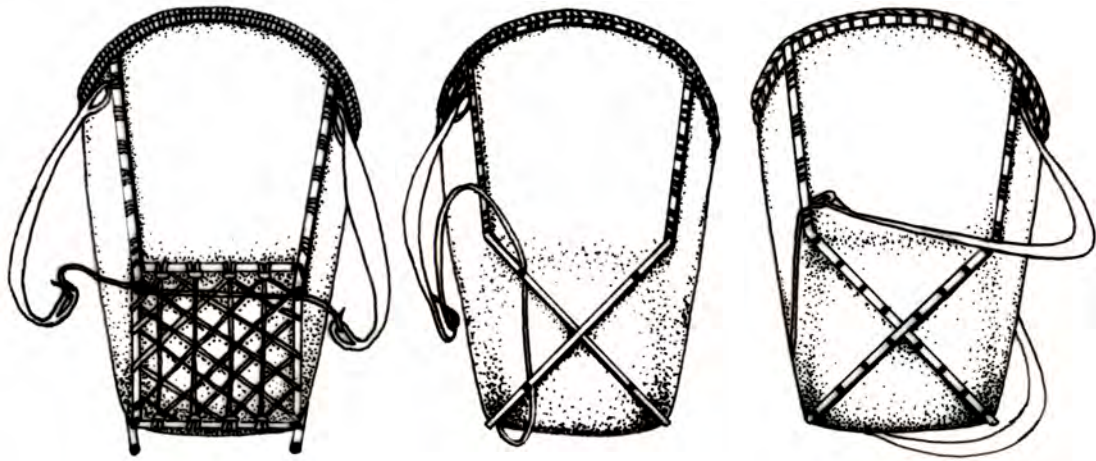


Fig.6.19. Kenyah Badeng, Penan Talun and Kejaman style bases.

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The *taket* of the Penan Talun and Kejaman pass underneath the *ingen*, cross over and then go up the diametrically opposed side, to end back at the rim, thus forming a stable base for the *ingen* to sit on. Where the rattan turns the corner at the base, it is notched, so that it can turn a sharp 90° angle; further stitching is placed on the base, to hold this cross over securely. Often these *taket* are coloured red or black for decoration.

Punan Bah *alat* have a cross in the same manner as the Penan Talun, and Kejaman baskets but their weave incorporates extra strands, making it flair. Their *taket* travel over the top of the rim and right down the inside to the base, where they are cut off.

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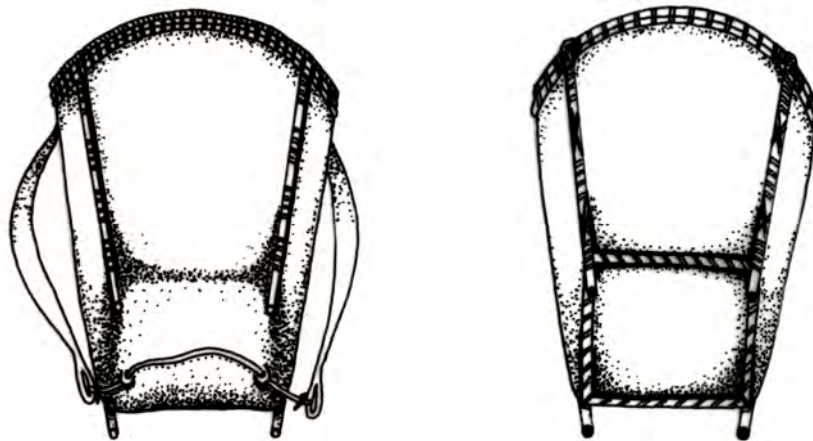


Fig.6.20. Two Bhukat style bases.

The *taket* of the Bhuket *ingen* are cut off, just below the base and so form short legs, so that they stand up easily. In some cases extra support is introduced by the addition of side bars attached to both the legs and the basketry base.

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Long San Kenyah use an *ingen* with a very similar appearance to those from the Kenyah Badeng at Asap, the differences manifest themselves in three ways. The first difference is that there is no outward flair to the basket sides, due to there being no strand addition in their manufacture. The other two differences are that the *taket* and frame for the *tempan* are both produced from wood rather than of rattan.

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Kenyah from Lg. Belaong, Upper Baram use two types of *ingen* at the *ladang* (field). The first type is for the harvesting of rice, it is called *ingen ajan* differing from all other *ingen* in as much as it is not carried about, and therefore does not need *kisew* or *ay*. this *ingen* has long legs, so that as swidden farmers are collecting the padi on hillsides they can push the legs into the ground, to prevent tipping, whilst keeping the basket level.



Fig.6.21. L.B.K. *ingen ajan*, showing its legs and base.

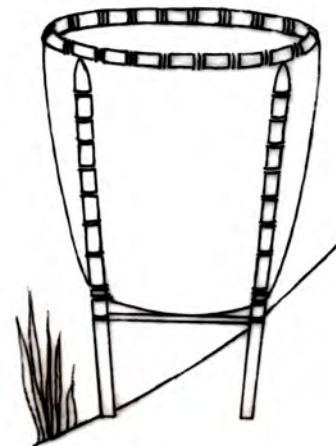


Fig.6.22. L.B.K. *ingen ajan*, on a hillside, with its legs imbedded to prevent it tipping.

The second type of *ingen* used in the field, is a larger basket into which the *ajan* is emptied; it is called *ingen patet* and is used to contain the padi whilst more is harvested. This basket only has short legs and an extra strip of rattan threaded

through the weave just above the base for strength.

Like the Badeng, all the Lg. Belaong *ingen* have a secondary woven base, but this group of Kenyah only use wooden *taket*, never rattan. The weave is made from either rattan or, now that rattan has become scarce, plastic strip.

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Uma Bakah *ingen* are made in the same manner as the Lg. Belaong *ingen patet*, with wooden legs, a secondary base and the extra strengthening strip of rattan.

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The Upper Baram Penan, where they produce *ingen* rather than *bu'an*, weave it in the same manner as for the *bu'an*, but use legs rather than the strapping for strength.

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A lid, where employed, is made in the same way as the *ingen* base, working from the centre to the corners, then carrying the 2/2 twill weave up the sides. The sides though, are very much shorter in length, and do not have the extra strands positioned within the weave as no flair is required. The edge is turned in the same manner as found on the *ingen*, but no rim is applied. The lid is held in its place on the inside of the top of the *ingen* (see pl.6.38) by a piece of rattan. This is threaded through the weave of the *ingen* and tied, it then passes over the top of the lid, where it is threaded under one of the weave strands before continuing to the opposite side of the *ingen*, and is tied off securely.

Straps (*ay* - K.B.) are attached to the *ingen* by tying them to rattan *kisew* (loop - K.B.) found at the top of two of the *taket*, situated next to each other (see fig.4.30.). The other ends of the straps are joined to either end of a strip of rope by their loops. The rope passes through the *tempan* or the *taket* cross over to hold it in place. Bhuket *ingen* have two woven *kisew* attached to the underside of the basket, to hold the rope. Kejaman also use a four *kisew* system, but in this case the loops are all attached to the uprights of the *taket*.



Although *ingen* are sometimes decorated with various patterns; today, it is unusual for this to be more than a simple check weave, produced by dying some of the strips black or brown (predominantly due to it being a purely utility object.) Previously, more ornate designs were seen, changes to the weave pattern alone produced incredibly complex but subtle designs. Often now, many *ingen* are being produced from strong plastic packing tape, giving them vibrant colour schemes. In specific cases, only the rim and stitching is carried out in this tape, whilst the rest is still produced in rattan. Availability of the raw materials is the key to the choice of material.

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The Penan Talun living in the Koyan area frequently make extra *ingen* so that they can generate an income from their sales around Asap and Koyan. The Lahanan here choose not to produce their own *ingen* today, preferring to buy them from the Penan Talun. I found that *ingen* for sale do not always include shoulder straps, the buyer being expected to produce their own.

*Variations on the ingen.* Kj. - *azat cecak*, Sk. - *adzat*.

The Kejaman make *azat* from various materials, rattan, small bamboo, *bemban batu*, plastic and a plant material known to them as *bai*, which appeared be a type of *bemban*, all of which are sometimes used in combination. Where *bai* has been chosen, both the inner and outer surfaces are used, often one for each direction of weave.

Although in some cases *azat* are woven in the manner above, many are woven using a vertical/horizontal 1/1 or 2/2 plain weave. In this case no *mata* are required as the corners are easily turned, without the pattern changing. If, however, a diagonal stripe, or zigzag pattern is being built up, single weaves are used where necessary to form the design (see fig.4.4. & 7.). The horizontal strands are finished by overlapping their two ends for several passes under and over the vertical strands keeping to the pattern. The top edge is finished by folding the strands over the final horizontal strand and pushing them back



through the weave for several centimetres. Typical Kejaman rims as described above, are attached to this edge.

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*Adzat*, produced by the Sekapan, differ from the Kenyah Badeng *ingen* in as much as the weave used, although a 2/2, is plain not plaid. It is still worked with a *mata* in the same position as for a plaid weave, the difference is that instead of them producing a corner, the base is positioned so the *mata* come up the middle of each side; starting to form the pattern. The sides are also woven in a 2/2 plain weave, worked in a diagonal style away from each corner upwards. Where these two diagonals meet in the centre of each side and at the corners, two *mata* are put in on every second row. A zigzag or a diamond is formed running around the circumference. When the basket is high enough the vertical strands are bent over the last horizontal strand and woven back in through the weave. A single extra strand is seen running across the base on the outside, from edge to edge, where it is pushed through to the inside, and continues to the rim, this gives support during the weaving, and is removed on completion. The legs and rim are formed in the same way as those seen on the Penan Talun, *ingen* with a cross formed on the base. The number of rattan rings in the rim, one or two, depends on availability.

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On occasion the Punan Bah will also choose to make this style of harvesting basket. The materials are often mixed with plastic strands, in either one or both directions giving a dramatic colour alternative, this especially occurs today where rattan is at a premium for many communities.

*The Benen* - Kl., L.B. - *tayen* (where this basket has a lid it is known in the Lg. Lellang area as a *ra'ing*)

This Kelabit and Lun Bawang basket is used for harvesting wet padi, before it is transferred to a larger basket, the Kelabit *bu'an*, or the Lun Bawang *reng* for transportation. It is produced in exactly the same way as the *saging* from *wei*

*sega* or *sebilit*, with extra strands included in the sides, these are placed regularly up the sides to about three quarters of the height of the *benan*.

The exception to the manufacturing process of the *saging* is that two extra straps are put onto the basket because of the extra weight, they are both positioned on the same side of the basket. There are two methods by which this can be done, the first is to add them in the same manner as all the other straps, the loops for the belt then being positioned horizontally across these straps. The second way, is to place a piece of half rattan up the length of the basket, starting just below the rim, the length of this varies from about 15 cms to just above the turn for the base. A second piece of rattan the same length is put to the inside in the same place. These pieces are then held in place at either end using the same weave found at the base of each strap of the *saging*. Two holes are then drilled through this for the rattan or string to attach the belt, straps or headband. Loops - *dalit* (see fig.4.30), can be attached to the top of the rim - *mepit*, these are so that a lid can be tied on or a lace positioned to hold the contents in place.

A pattern is sometimes woven into the basket and in some cases the weave strands in one direction are dyed to form a more distinct pattern. This basket is coated inside and out with bark resin preservative, *ubur*, to help prevent it rotting, when used on the farm, rather than for decoration.

In Bario, the Kelabit today often buy baskets from just over the border in Kalimantan, Indonesia; which is only a short walk away. Many producers bring their baskets across to the Bario highlands to sell. These makers are from a Kelabit sub-group, living at Lg. Berian, their baskets are made in the traditional Kelabit style. The reason for purchase, is three fold; due to the lack of availability of the raw materials in the Bario area; to time constraint (the making of these baskets is very time consuming), and baskets bought from over the border are cheap because the economy in Indonesia at the present

time is far weaker.

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The Lun Bawang call these baskets *tayen*; these, like the seed baskets, are made in almost the same manner as those made by the Kelabit, and with the same differences seen in their seed baskets. Extra binding straps called *eret*, around the circumference are also seen towards the top rim on some examples of this basket (see fig.6.25.).

*Tayen* are traditionally given to the grooms family at a marriage, they are usually highly decorated. Although smaller examples are worn around the waist, on a piece of bark cloth or fabric; larger ones are worn on the back, using shoulder straps.

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Penan from Lg. Main use the term *ingen* for these baskets. Although they are predominantly seen with twelve straps around their outer surface, they can occasionally be seen with all the straps moved so that they are on the sides, spread at equal distances round the circumference. Occasionally the Penan will use two colours of rattan to form a pattern.

#### ***The Bu'an Budok* - Kl.**

This basket, produced only by the Kelabit, is almost conical in section, but with the sides also belling slightly, its' shape is to aid movement in a wet padi field, when the basket is tied at the waist, using a broad belt. As it is not put down whilst being filled, it is not necessary for it to have a large base.

The base is made from a 2/2 weave with *mata*, to a size of about 6 cms<sup>2</sup>, once the corners are turned, extra strands of rattan are added, at more points around the circumference than for the simple *bu'an*. The strands are also put in closer together up the weave, to make it flair quickly. This weave is patterned heavily in bands.

The vertical strapping again consists of 12 components, this time passing over the lowest rattan ring on the outside of the rim, rather than under it. These straps are stitched on with three stitches at each position, before the fixing strand travels up (on the inside) to the next group of three. There are two shorter straps, positioned: one between the corner strap and the nearest strap on the side. The other being between the following corner and the preceding strap, on the same side. These are for the attachment of a waist band, the loops for these lying vertically along the strap, and piercing through to the inside.

On the sides where the weave pattern changes, a thin piece of whole rattan is wound around the basket twice, under the strapping; before dropping to the next band between patterns; this drop occurs on the side to which the waist band is attached, is to help add strength.

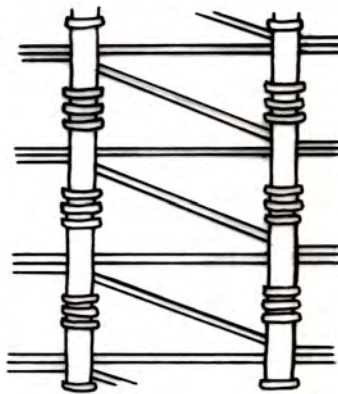


Fig.6.23. Strengthening.

The rim is formed in the same way as for the *saging* and *bu'an*, except that an extra ring is placed on the very top. The wrapping rattan strand includes this ring on occasional with evenly spaced wraps.

The base is similar to that of a *bu'an*, but, because the terminal weaves holding the strapping in place are very much closer, the appearance is different. Above the terminal weave double stringing is added to form a plait finishing it both strongly and neatly. The rattan square base is also covered in double stringing in the same style.

Like the *benen*, the *bu'an budok* is coated inside and out with protective bark resin, *ubur*.

These baskets are extremely rare due to their complexity; and I could find no one making it today, both Salalang and myself have had many experimental attempts at producing this basket. The main problem I found with its manufacture, was incorporating enough paired strands into the weave to give the sides the characteristic beelling flair.

Those Kelabit who still own one of these baskets keep it very well and with great pride.

#### *The Lasok* - L.B.

The Lun Bawang in the lowland areas around Lawas Town produce a further basket - *lasok*. It is worn at the waist for collecting rice in the field, before it is transferred in to a larger basket for transportation.

The *lasok* is produced from a piece of sago palm, from the portion of the leaf stem where it meets the main trunk - *kebieh*, this falls from the palm rather than having to be removed. Instead of weaving, the *kebieh* is used whole as it is almost conical in form, with the narrow point making up the base. The edges of the *kebieh* are sewn together to complete the cone. The style of framework found on the *tayen* is then attached. The rim is far simpler than the *beped* of the *tayen* and is closer in style to that found on the *ingen* as there are spaces between knot work.

This basket is frequently seen in Sabah, and is rarer in Sarawak because of this I believe the design has come across the border from the Murut there.

## Rice Transportation Baskets

In many ways these baskets are very similar to the harvesting baskets I have already discussed and are generally made by the women within the family. They are used to transport the cut padi from the smaller lighter baskets carried up and down the field, to the farm house or village. I found the name for these baskets remained the same for the groups who produce *ingen* style baskets, but changed for those producing the *benen* style baskets.

*The Ingen* - K.B., P.T. & Bh., Kj. - *azat*, P.B. - *alat*.

This basket is made in the same manner as previously described for an *ingen*, but the sides are far higher, over a metre in many cases. The height depends very much on who is to carry it and their strength, as the weight when loaded is substantial. This growth in size, rather than change in design is also found with, the Punan Bah *alat*, the Kejaman *azat* and the Sekapan *adzat*, but their volume can be increased still further:

‘ by standing a rolled up mat upright inside it.... doubling the capacity so that the load stands high above the head of the person carrying it.’ (Munan 1989:43)

The flat base and legs make the *ingen* stable when standing without support. Again it can be found in conjunction with a lid, but this is not always the case. I find this slightly odd, as the possibility of losing a load by spillage caused by an accidental fall by the person carrying the *ingen* could cause shortages of this staple food later in the year.

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Kenyah from Lg. Belaong, Upper Baram call this *ingen* for transporting *padi* from the ladang home *ingen bak*. An extra strip of rattan is added part way up the side from the bottom which is woven in and out of the rest of the weave and is used to give additional strength in this area. Their baskets are accompanied by a lid at all times, to keep the contents safe. A string is

positioned over this, running from one side of the rim to the other, ensuring that the lid cannot fall off.

### *The Bu'an* (with a lid *ra'ing*)

This is made for carrying large, heavy loads of fairly small items, particularly *padi* back from the farm; thus it is the basket into which the *benen* is emptied, as it will hold several times the load of the *benen*. (*ra'ing* Janowski 2003:31)

It is basically made in the same manner as the *saging* and *benen*. The 3/3 weave being continued from the base to about 2 cms up the side before changing to a 2/2 plaid weave. The bigger the basket, the more vertical straps are required to strengthen it, because of the weights carried in it. The loops for the headband and shoulder straps, when used, are placed horizontally across three straps, wound around each and are bound round with further rattan.



Fig.6.24. Attachment loops for straps.

Again for added strength, each strap has further weaving of the type seen toward the base of the *saging*. This weave is spread in sections across the whole length of the strapping (see fig.6.10).

When good quality rattan is not available, poor quality rattan has to be used and strengthened; this can be carried out in more than one way. Extra strapping can be added horizontally in areas around the circumference. These pass under the vertical straps, thus being held in place. Another choice is to use the rattan the other way round, with the skin on the inside of the basket and then, on the outside, light horizontal rattan straps are then added around the circumference approximately every centimetre, under the vertical heavier

straps, between the ties used to hold them.

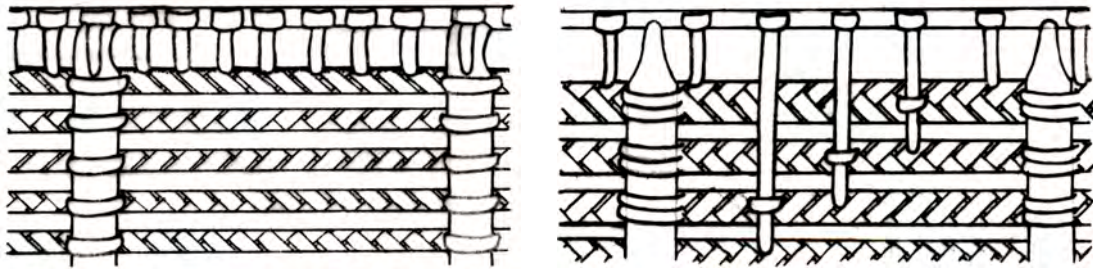


Fig.6.25. Two types of strapping called *eret* (L.B.), used for strength, found on Kelabit and Lun Bawang *bu'an*.

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Lun Bawang also call their large basket for carrying the *padi* home after harvesting, *bu'an*. All the outer strengthening is collectively called *ngerapit*, this includes the rim, base and all of the strapping. The vertical straps are called *ur tayen*, the rim is known as *beped*, the large rattan base frame is *reken*, the action of making these additions is *repit*. These names are also used in the production of *buku* and *tayen*.

This basket is made in the same way as the *tayen* but on a larger scale. It is worn on the back, using shoulder straps.

### ***Variations in Rice Baskets***

There are many variations of these styles of rice baskets, the reasons for this are numerous.

Penan have only recently started to farm rice, both by the swidden and wet padi methods. Up until they settled they had no need for baskets for seeding, harvesting and transporting. They have generally chosen to use baskets similar to those used by their neighbours. Often the farming techniques themselves have been learnt from their neighbours and so they had the opportunity to learn the basket styles simultaneously. In the Asap area, the Penan Talun use the *ingen*, with a selection of rim, legs and bases taken from other groups and



combined to produce a basket which they find most suitable for their work. In the Lg. Lellang area the Penan grow wet and dry padi, and make *bu'an* style baskets similar to those produced by the Kelabit. In other areas both styles of baskets are used by the Penan. Decoration for these baskets where seen, is often taken from more traditional Penan design.

Other communities living in close proximity to each other appear to also use baskets with marked similarities, an example being the Kelabit *bu'an* and the Lun Bawang *tayen*. I understand that this is due to an exchange of ideas going back through history.

Many groups buy their baskets from other groups, the Bario Kelabit being one such group; the Lahanan another, not now making *ingen* at all themselves, but buying them from the Penan Talun who tout their wares around all the communities in the Asap area. This must be a regular source of income for the Penan Talun as I saw baskets of their manufacture in most of the longhouses in the area and the women can frequently be seen riding from one longhouse to the next on motorbikes with a stack of these baskets on their backs, I have also met them on the various verandas in the area, going from door to door. Due to this economic incentive, they are probably the quickest manufacturers of *ingen* in this area. Their baskets can often be initially identified by the fact that they usually decorate them with black or red legs, unlike the other communities here, further examination shows up other differences discussed earlier.

A further reason for cross overs in style is due to intermarriage between people from different communities, Kenyah Badeng with Uma Bakah, Upper Baram Kenyah and Penan with Kelabit etcetera, one party in the marriage bringing the basket style from their community to a new village. I found this with both Salalang and Lawai in Lg. Lellang and also Kolat and Eden at Uma Bakah, in each household, I saw both styles of basket, and also baskets with aspects of the two intermixed forming a hybrid.

The most usual hybrid I came across consisted of typical Kenyah style legs with a Kelabit style rim, Gadong and Salalang keeping several examples of these. Gadong (pers. com. 2002) said she chooses to use wooden legs on many of her baskets, rather than rattan legs or Kelabit type strapping, as she feels they last longer.

## **Rice Processing Equipment**

### **Winnowing Equipment**

Winnowing is the process used to remove the rice both from its stem, husk and other extraneous material after harvesting. To do this the rice has to have already been thoroughly dried, it can then be stored if wished or immediately processed. Often completed prior to any periods of storage, the *padi* is placed on a mat, where it is trampled and rubbed between the feet, to loosen the outer plant material from the rice grain. It is then thrown in the air from a *tapan* and caught allowing the wind to carry the chaff away. From here it is either stored or goes through several further stages to remove the adhering husk, either by pounding in a pestle using a mortar, or by using an electric powered, husking engine. The white rice is then either sieved or the *tapan* reused to remove any last small particles from the rice before cooking.

**Drying Mats** P., L.B.K. - *ta'ing* K.B. - *ngetau* -to dry rice or *sada lepi*k (*lepi*k meaning edge), Sk. - *pan*, P.B. - *ou*, Kl. - *agam* Kj. - *liang*, L.B. - *ugam ngeraw* (*ngerawih* - drying, *ugam* - mat -*ugam ngeraw*).

This type of mat is initially used for drying *padi*. The mats are usually at least 2 metres square in size, to prevent any loss of grain and to allow for the maximum amount of *padi* to be dried at one time. The mat is placed outside in the sun and the newly harvested *padi* is thinly and evenly spread across its surface; to speed up the drying process as the rice doesn't have to be regularly

raked and turned. Spreading allows for maximum air flow and sunlight to dry the *padi* fully before storage, and therefore, prevents the growth of mould. Care has to be taken to stop the *padi* becoming wet due to an unexpected rainfall, but if the rain should come, the mat can be picked up easily by its corners and hurriedly moved.

Once dry the rice is winnowed onto this mat to prevent the loss of any grains and to allow them to be easily poured into a bag or storage container.

This mat is the roughest type of mat produced by the Orang Ulu communities. It is regularly made from materials other than rattan. The Badeng, Upper Baram Kenyah, Kelabit and Penan often choose *tepo'* because of the immense pressures on rattan stock and the high prices incurred in its purchase. Punan Bah will only make mats from rattan though, as they are more durable. Lun Bawang use *tepo'* and *sebilit* etc. for their mats, as they do not particularly feel, that one material is superior to another for this particular type of mat.

This style of mat can be made in one of two ways: (i) The Badeng and others working from one corner, adding strands until one edge has been produced and the edging put on (The Kenyah Badeng call the edge *sada* and the corner *tikung*).

The edge is turned in the same manner as rims on many types of basket; by passing the strand behind the one next to it and folding it at 90°, before passing back down through the weave twice before being cut off. This occurs with both directions of weave, as no outer strengthening is applied.

The weave is worked across until the desired width of mat has been achieved and the second edge can be put on. Where a strand of rattan reaches one of the ends it is twisted so that the skin side of the material, where one is present, remains upwards. It is then passed back into the weave at 90° to continue as

part of the weave (Where the material used is *tepo'* it can be bent round at 90° if it reaches an end, as the fibres squash allowing it to make this turn.). Strands work across the mat until they reach the opposite side edge and are, therefore, secured at both ends.

In most cases, an extra strip of rattan is placed along the edge under the finishing turn of the strands, this is to help give strength. The string is only found along the sides, not the ends. Today, the Sekapan will often use a plastic string for this. The mats I saw in Long Belaong, do not have a strand under the weave, but, instead, one is stitched on top of the edge.

The corners of these mats are not formed as 90° points, as the strands would be too short here to finish them off securely enough for the forces they will have to endure. The corners are left with four to six strands which are not included in either the edge or top but folded over on to themselves, some towards the front others towards the back of the mat, and passed back through the weave to finish, producing a chamfer.

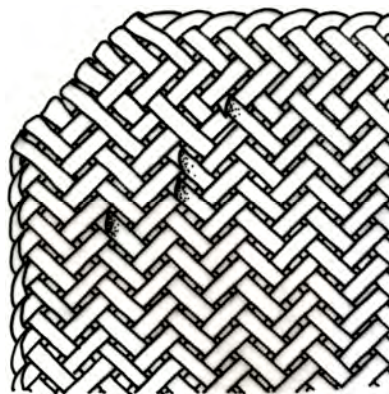


Fig.6.26. The chamfer seen on drying mats.

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(ii) Most Penan start weaving mats from the centre line. Where the mat is started in the centre, the strands are worked outwards to the side edges, this is described later with sleeping mats. The weave types chosen are of the plaid varieties, sometimes including slight patterning, mainly in the form of stripes.

The weave tending to be of a 2/2 or 3/3 variety. The Sekapan say that this type of mat takes about three days to produce.

Drying mats are rolled up when stored and can be found in the eaves of farm huts and stores.

*The Sieve* K.B. - *eleng*, Kj., Lh. - *elik* P.B. - *ta'at*, Sk. - *ka'ayak*, U.B.K., Kl. & L.B. - *agag*, P. - *ileng*

This sieve is usually round and is used in the production of rice. It is found in all the communities of Malaysia. Although the size of the sieves can vary, the average would be about 80 cm in diameter. Sieve manufacture is the remit of the women. Two types of sieve exist, the first is used prior to the winnowing tray, the second, after husking has taken place.

(i) *Eleng Padi*

The *eleng padi* is used to sieve the unhusked rice, removing all the larger elements, such as stems, leaves and other debris before winnowing with a *tapan*.

The *eleng padi* can be produced from various materials, including bamboo, rattan and *tepo'*. It is woven from strips with an approximate diameter of 5 mm and a length slightly longer than the required size of the finished *eleng padi*.

Although the weave is of a 1/1 pattern it is predominantly of an open form, leaving square holes of about 10 mm diameter within the weave. These holes are large enough for the unhusked padi to fall through, whilst leaving most of the unwanted plant material in the tray.

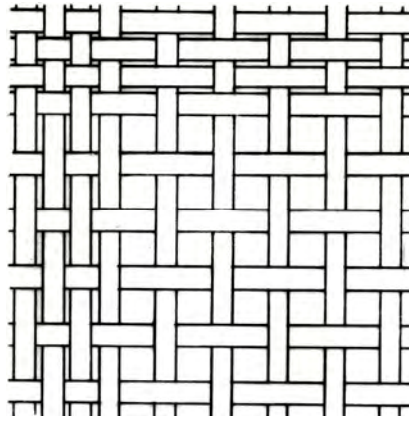


Fig.6.27. Weave spacing for an *eleng padi*.

First an open weave square has to be produced with a diagonal measurement equal to the diameter required for the finished *eleng*. The weave running parallel to the square can then be woven in a closed fashion, producing a tight border on all four sides. A *tapek* is employed to force the weave tighter when necessary. This closed weave is continued until the woven area has a length and width equivalent to that required for the diameter of the sieve.

A whole rattan of 8-9 mm in diameter is split in half lengthways and is made into two hoops (*tekoleng*), one hoop fitting neatly inside the other. The circumference of these hoops should match the circumference desired for the completed sieve. When these hoops are produced, the ends are tapered and overlapped, allowing the join area to have the same diameter as the rest of the rattan hoop. A small nick is then cut into the skin of the rattan, into which a thin strip of rattan is pushed, this is used to bind the two ends together. The binding strip is called *kaput* (K.B.).

The very slightly larger of the two hoops is placed with the weaving on top of it, the corners of the open weave should be touching the edge of the hoop, to keep the weave central. The smaller hoop is placed on top of the weave and then forced inside the larger hoop, trapping the weave in between the two. The excess weave from around the outer edge of the hoops is trimmed level with a *pueh*.

A covering strip of the same material as the weave is placed over the upper edge of the hoop, concealing the rough cut woven edge prior to the two hoops being bound together. The binding (usually rattan but, sometimes, now plastic strip) passes through the weave, forcing gaps between the weave strands, thus, producing a strong edge. A hanging loop is often incorporated into this binding, so that the *eleng* can be hung up when not in use.

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The Lahanan *elik* differs slightly from those used by the Kenyah Badeng. An *elik* is produced from rattan in the same way as the *eleng padi*, having the same openness to the weave, excepting that it is a 2/2 plaid weave with the initial three strands in each direction woven up against each other forming a cross in the centre. The weave is then open all the way to the edges of the sieve, with occasional triple weaves across this centre line.

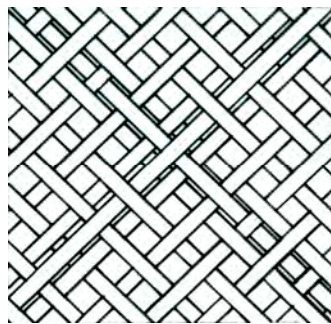


Fig.6.28. The *elik* central weave.

Although the rattan rings are positioned in the same manner, the tying rattan is far more elaborately carried out, completely disguising the join and forming a plait like design.



Fig.6.29. The *elik* rim binding.

## (ii) *Eleng Bah*

The *eleng bah* is used for sieving white rice after the husking process has taken place, to remove further extraneous material. It is most often found in use

when the owner wants to make *borak / tuak* a rice wine, popular in the *Ulu* and Sarawak generally.

The *eleng bah* is produced in a similar manner to the *eleng padi* initially, but using a slightly thinner strand and the open area of weave only producing a gap equivalent to one strand in width.

Once a weave area of approximately 10 cm has been produced in open 1/1 plain weave, extra strands are incorporated between the existing ones, on all four sides. The Kenyah Badeng bend over the end of each of these additional strands about 2 cm in from their ends and hook them around the last woven strand on each side of the central area. At this point, the weave changes from a 1/1 to a 2/2 plain weave. The tail end of each strand is incorporated back into the weave on the underside of the sieve, thus, each strand is securely held in place. When the 2/2 weave has reached the desired diameter for the *eleng bah*, the rim is put in place in exactly the same manner as for the *eleng padi*.

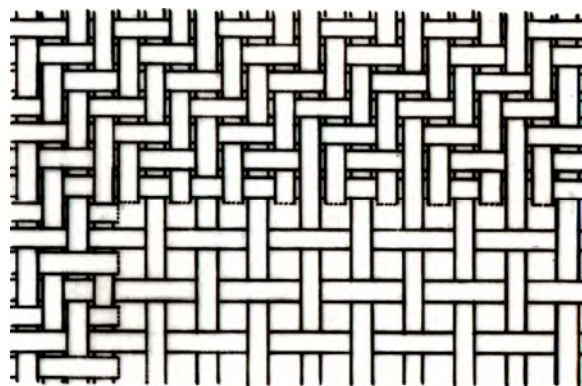


Fig.6.30. Weave change for the *eleng padi*.

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The Sekapan *ka'ayak ba* is also woven in this manner, using 2/2 plaid weave for the outer sections, folding back the excess strands and proceeding with a 1/1 weave for the central sieve section. The main difference is that in many sieves the strand widths vary, producing a pattern to the weave.



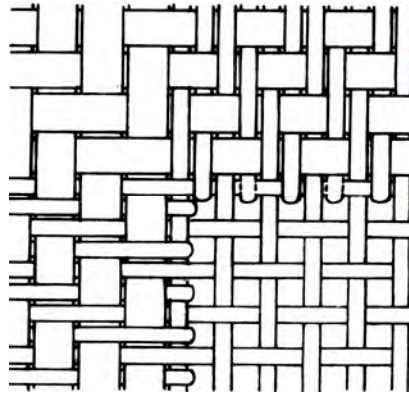


Fig.6.31. Strand width variation in a *ka'ayak*.

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Punan Bah *ta'at* are used for sieving dehusked rice and pounded rice for use in the production of *borak* their rice wine. They use small *sang* leaves, which they call *lelap* for these sieves. To produce the open weave section in the centre, the strands are narrowed, by cutting a small strip off either side of a *lelap* leaf. They then return to their original diameter to continue as a closed weave on the far side.

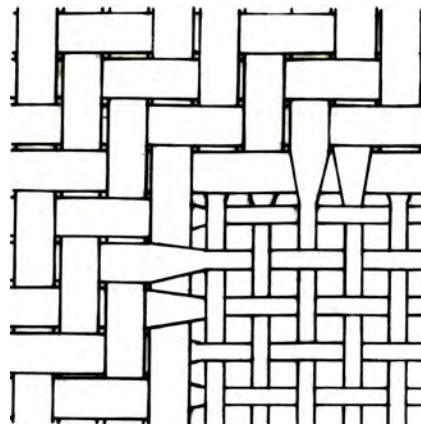


Fig.6.32. Strand narrowing found in *ta'at*.

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Where strands become broken through wear, they are replaced as necessary, either in the same material or with plastic strip.

\*\*\*\*\*

The Kelabit sieve - *agag* is made from rattan rather than bamboo, where possible, as rattan is stronger (bamboo is more prone to insect infestation and so when not in use has to be kept above the fire in the smoke to keep the insects at bay). The sieve shape produced by the Kelabit at Lg. Lellang is square. The weave is made in the way already described above for the *eleng bah* of the

Badeng, but the rim is formed by using rattan which has been notched to form a corner, similar to the kejaman *tapan* below. It is fixed in place around the edge as previously described, using rattan cut in half lengthways, one piece to the inside, the other to the outside tied into the weave.

**Winnowing Trays** K.B., Sk., P.B., Kj., U.B., U.B.K., Lh., Bh., L.B.K. - *tapan*; Kl. - *renut*; L.B. - *rinuh*.

The *tapan* is designed for winnowing *padi* after the harvest. Once the *padi* grains have been sieved to remove the remaining stalks, the grains are placed in the *tapan* and held high above the head then gently shaken to allow a slow and steady flow of grain to fall back on to the mat. As it falls any breeze will blow away the lighter chaff. A second method is to throw the *padi* into the air from the *tapan* and then re-catch it, allowing the breeze to blow the chaff away during the airborne period (see video of Kirung and Yaya). I have attempted both methods and found neither of them to be easy. A *tapan* filled with rice is very heavy, so I found that it was hard to keep the weight overhead whilst simultaneously controlling the flow of the *padi*. Throwing the *padi* into the air proved equally difficult, as the angle used to get all the *padi* airborne is hard, but to also throw it with enough force for it to go high in the air to catch any breeze and then land back in the *tapan* must take a great deal more practice than I had.

A *tapan* is also used in many other ways, primarily to do with the preparation of food, where it takes on the role of a tray for sorting and cleaning vegetables and mushrooms. As it is a multi functional item, it is made in a variety of sizes, dependent on the use for which it has been produced. Small *tapan* can measure as little as 30 cm by 30 cm, but the largest are found to be over 70 cms. Very small *tapan* are produced for sale to tourists as souvenirs, these are often highly decorative making them more lucrative. All *tapan* include a hanging loop at the top edge for storage in kitchens and *padi* stores.

The *tapan* is a scoop shaped tray, They are all essentially, made in the same manner, the exception being those *tapan* produced by the Kejaman.

In the most part *tapan* are produced with second cut bamboo (see materials) strands of the same width, most groups using a 2/2 plaid weave, with no passive strands.

The front edge is woven first, producing a straight edge by folding the strands back on themselves to form a continuous weave, this can be seen easily in both Badeng and Sekapan *tapan*.

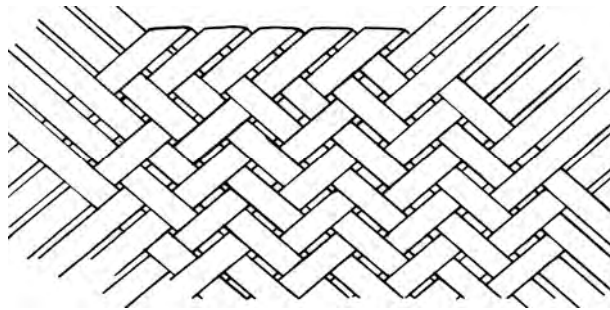


Fig.6.33. Weave found at the front edge of a *tapan*.

The sides are produced by leaving the strand ends free until the shape has been fully formed, one direction of these free ends (in the manner of a basket rim) are folding back on themselves, passed back through the weave and cutting off, along with the opposite direction of weave strands. Corners are formed by folding the strand where the corner is to be formed to a 90° angle across its flat surface and continuing the weave, this produces a pointed corner. The other strands following the directional change to produce a curve.

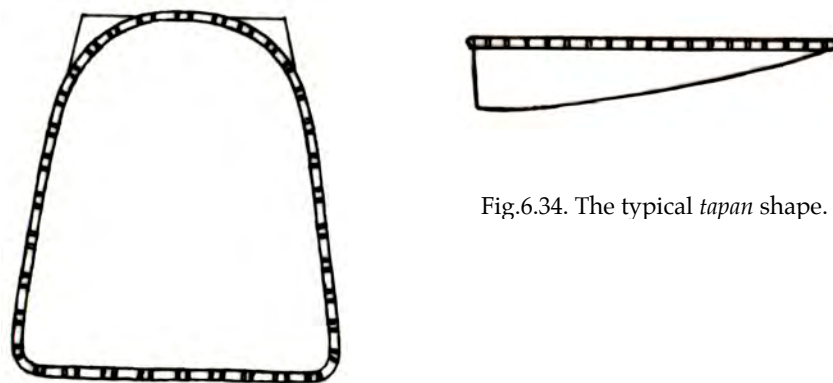


Fig.6.34. The typical *tapan* shape.

The *tapan* used by the Lahanan are produced in exactly the same manner as described above, belonging to the Kenyah Badeng and Sekapan. Lg. Belaong Kenyah make their *tapan* in this manner, but their *tapan* tend to be far deeper at the back edge.

\*\*\*\*\*

Punan Bah use wild sago, *orok* as well as bamboo, *buluk* to weave *tapan*, although the shape they make is the same, the weave chosen is a 1/4 plain weave, with the strand ends folded back on themselves to finish. Again the rim is put on as before, using rattan.

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A lesser used variant of the *tapan* is produced by the Kejaman Lasah, who call it by the same name. This preferred *tapan* is a rectangular shaped variety of a winnowing tray. It is again produced from bamboo in a 1/4 plain weave, with its edges finished by bringing each strand to the position of its neighbour and working it back through this weave a short distance. When the rectangle is complete and the edge fully finished, a strengthening band of running stitch in rattan or plastic is sewn through the weave approximately two centimetres in from the edge.

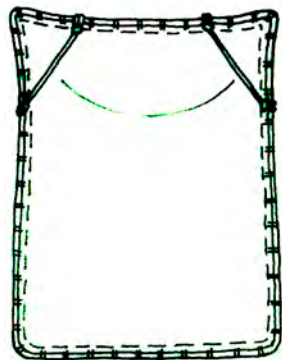


Fig.6.35. The Kejaman Lasah *tapan* shape.

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The edge of both styles are finished and strengthened using a piece of split rattan on both the inner and outer surfaces, this is long enough to go all the way round the edge with an overlap. The overlap is tapered, so that when the two ends meet, the thickness doesn't increase (see fig. 6:36). The Kejaman rim is notched to form four corners, whereas the Kenyah Badeng variety only needs to be notched to form two corners. A strip of bamboo is positioned along the

very edge of the rattan to hide the cut ends of the weave.

The edge of the 2/2 plaid weave *tapan* are sewn in place, by piercing the weave, and passing the thread through the hole. Then before it is taken over the top of the rattan, it goes under itself before proceeding to the next hole, forming a blanket stitch. This thread is usually made from rattan, but is now being replaced by strips of strong plastic packing tape.



Fig.6.36. Kenyah Badeng style *tapis* rim, inside and out.

In the rectangular form of *tapis* the strengthening band is stitched through the weave along the edge, using running stitch. It passes over two strands of rattan and then under the next two, around the entire edge. A second line of sewing is placed closer to the edge again, using a diagonal stitch. The rim is then tied in place in the same manner as the other form of *tapis*. To form the scoop shape, two tensioned lines are positioned across the corners and bound so tightly that the entire form is pulled into shape. These lines have strengthening in the form of a binding wrapped around the length of the strings.



Fig.6.37. Kejaman style *tapis* rim, inside and out.

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Occasionally *tapis* have a decorative weave, made up of the natural bamboo strips and strips that have previously been dyed black, often the pattern is a basic check. Some strips are dyed completely black, but it is said, by the Kenyah Badeng, that this really heavy dye often transfers to the contents of the *tapis*.

Due to this they prefer the bamboo to be dyed, to a dark brown, using *kadeng*. Both the Penan Talun and Bhuket tend to favour the heavy black colouration, but I have not been able to ascertain if they have found the same problem. The Kejaman use a red dye for preference, dyeing the underside of the *tapan* only, thus preventing the chance of any transference of dye to the *padi*.

\*\*\*\*\*

Lg. Lellang Kelabit *tapan* follow the same shape but use the skin of the bamboo which is far harder wearing, more durable and rigid than the second cut, the skin side is placed to the underside. This bamboo has to be woven when it is still green, so that it will form into the required shape, it then dries in shape, to a yellowish brown.

The weave used on the Lg. Lellang *tapan* appears to be made up of paired strands, but, in fact, each strand follows its own route on the inside: over 3 strands, under 2, over 3, under 4, repeat to the end. If one strand has just passed under 4, then the one next to it will be ready to pass under 2, giving an effect of staggered pairs. The pattern is visually different on the reverse as each strand is passing over 4, under 3, over 2, under 3, repeat. Often further diamond patterns are then worked into this (see fig.4.8).

The width and length of *tapan* are initially woven. The extra length of strand at one end is left uncut, until corners are processed by folding the weave up at the sides and back and weaving the extra length of strands through the adjoining piece of weave, from the back through the sides and vice versa, so that these corners have three layers of weave briefly before being cut off.

Not all Bario Kelabit *tapan* are made in this way, some are made in a 3/3 plaid weave, again only using the bamboo skin. Lun Bawang use the same style of weave as the Kelabit of Lg. Lellang on their *rinuh*, but will sometimes use the second cut from the bamboo. The differences of the *tapan* in these three communities is found in their rims. All rims are produced from two pieces of

split rattan, one to the inside, the other to the outside, with a strip of rattan covering the weave ends along the very edge.

The ties differ dramatically in each community. The Lg. Lellang Kelabit produce a very simple wrap, going over the two split rattans. The wrap goes through the weave three times, before moving along, against the weave to the next point, where it again passes over the rattans. Through the weave three times again, before passing along the weave on the other side to the next position of ties.

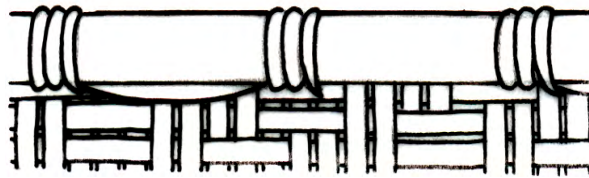


Fig.6.38. Lg. Lellang Kelabit style *tapan* rim.

The edge in Bario is more decorative, in as much as, it has two further strands of whole rattan on the outside. The basic tie goes over the rattan twice and moves to the next position always on the same side. Two whole strands of rattan move along the very edge, the first, passing under one set of ties, over the next and on to the third, where it again passes under the tie, the second whole strands of rattan does the same, through the remaining sets of ties.

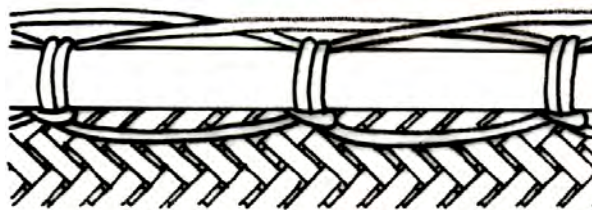


Fig.6.39. Bario Kelabit style *tapan* rim.

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The Lun Bawang *rinuh* has a second smaller piece of rattan on the outside only. This small piece is to give further strength and is positioned further away from the edge on the weave. The double ties along the edge are made up of two



strands and pass diagonally down from the edge to this rattan and over it. It then passes through the weave before wrapping around itself and passing diagonally up to the outer rim again in a zigzag. The second strand works from the halfway point, between the first ties, up and down in the same manner, producing diamond shapes between the two rims. All three groups make *tapan/rinuh* in different sizes.

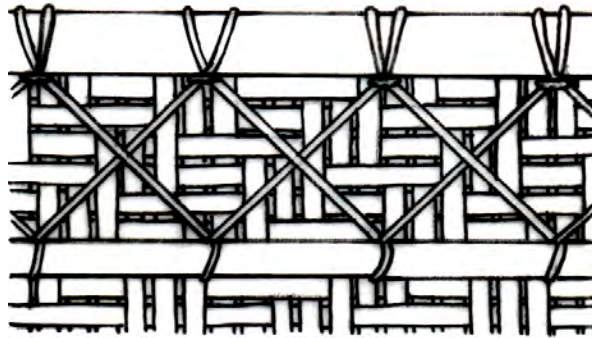


Fig.6.40. Lun Bawang style *tapan* rim.

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Frequently I saw that the corners of the 2/2 weave *tapan* had failed due to wear, this was remedied by patching. In some cases a small woven patch is placed on the inner surface, made out of the same material as the original weave. The outer surface then has a piece of strong cloth stretched across it, from edge to edge and adhered into place, thus giving the *tapan* a far longer life. Strand replacement is also carried out where necessary.

There does not appear to be any reduction in the need to manufacture winnowing equipment, because all of the Ulu communities are *padi* farmers, regardless of their other means of gaining an income, therefore, the use of this equipment remains a necessity.

Each family has at least one female member capable of producing sieves and winnowing trays. During my stay in the various communities I never saw these items for sale, but did hear that someone had asked to purchase a sieve from Darie Linchaw a Lg. Geng, Badeng. This was an unusual sieve and the only one



of its type I ever saw. It had several rattan rings forming its edge, with very decorative weave ties reminiscent of a Kelabit *benan* rim. She told me (pers. com. 2004) that she was producing these special sieves to give to her children, when they decided to get married, for their 'bottom draw'. Each time she goes to stay with her husband at the logging camp, she will get more rattan and make the next sieve, so far she has completed two of the six she will eventually need.

***Pestle and Mortar*** (Pestle - K.B. *lu* P.B. *lu'ow*, Mortar - K.B. *lesung*, P.B. *lu'ong*, Both - Kj. *lesung*).

Pestles and mortars for husking rice are very large and heavy, having an inner circumference to the mortar of not less than 20 cms. The pestle that is used in this is long enough for the pounding to be carried out by someone standing, when the mortar is on the ground. Because of its size and weight it is not portable. They are made from hard woods, most usually Bilian.

The pestle and mortar are used to husk rice after winnowing, when a husking engine is not available, previously all husking was carried out using these. The *padi* is put into the bowl of the mortar and pounded until the husks are removed.

The outer shape of the mortar varies according to personal taste, varying from a circular shaped object with carved detail, to a simple square block. They are produced by a male family member and are usually kept outside, close to the house. Today they are rapidly becoming redundant by the introduction of husking engines to most villages. A small fee is paid by each farmer, for each *kati* (a weight used in the area) husked by this engine. People in Lg. Kepang walk to Lg. Main to use the engine owned by Ayub and for this he charges R.M. 1 per *kati*.

## *Storage*

Some farming utensils are required to last, i.e. baskets used in the storage of rice, and winnowing equipment used whenever padi is being prepared for cooking. This equipment is often kept in farm sheds, built on stilts. To prevent rats accessing these stores and eating holes through the plant fibre, large wooden discs (rather like plates) were traditionally placed part way up each stilt, so that their rims protruded on all sides, rats cannot climb upside down and so could not get in to the raised store. Although this device is still seen, today it is more usual to find the stilts wrapped in thin sheets of metal or vinyl flooring materials as these prevent rodents getting a purchase on the stilt for climbing.

TYPE OF OBJECT		MADE BY		FAMILY USE		FOR SALE
Wood	Other Plant material	Male	Female	Male	Female	
Dibble stick		√		√		
	Seed baskets		√		√	
	Harvest baskets	occ. help	√	√	√	occ. locally
	Transportation baskets	occ. help for bases	√	√	√	occ. locally
	Drying mats		√	√	√	
	Sieves		√	occ.	√	
	Winnowing tray		√	occ.	√	sm. dec. occ
Pestle & mortars		√		√	√	

Fig.6.41. User / Maker table.

As can be seen from the above table most of the equipment used in rice farming is produced within the family to fulfil their farming needs, as previously noted, only the larger baskets are occasionally made for sale locally, whereas small decorative winnowing trays are sometimes made for the tourist trade.

## GARDENING AND ANIMAL HUSBANDRY

### Produce

Alongside the cultivation of rice, settled and semi-settled Orang Ulu will also keep vegetable gardens and orchards. Which are situated in several places. At the farm, vegetables are often found being grown in between the padi shoots as well as in vegetable plots. *Ubi Kayu* (cassava) is often seen growing in *ladang* (fields) that have been left fallow and plots are also found around villages each belonging to an individual family. Cultivated vegetables and fruit include: cucumber, pumpkin, beans, cassava, turmeric, sugar cane, onion, chillies, corn, aubergine, various types of ginger plant such as *tepo'* and leafy vegetables like spinach. Such items as edible fern and bamboo are collected wild.

Fruit trees are also grown at the farm or around the village, particular trees further afield may also belong to a particular family. The fruit trees include banana, papaya, mango, pineapple, orange, lemon, pomelo, coconut, jackfruit, durian, mangosteen, rambutan, soursop and langsaat. Other fruit such as rattan berries are collected growing wild in the forest.

Many people plant cash crops in their gardens to bring the family some income, coffee and pepper are the most popular, but cocoa and palm oil palms can also be seen.

Non-edible cultigens include tobacco, areca palm nuts and *sireh* (chewing wad). These are given to guests as well as used by the family. The lime paste needed for *sireh* is produced from snail shells. On occasion excess tobacco can be sold.

With the exception of the Penan who, Saloma Jalong (pers. com. 2005) says, share the tasks equally, I generally found that although everyone helped with the clearing of the ground, the greater part of the labour of cultivation fell to the women.

Fish ponds and domesticated animals are often found at garden sites, and around villages. Chickens are kept for their meat and eggs; pigs for their meat, slaughtered and used at times of celebration. Occasionally other animals are also found at the gardens being kept as pets, such as monkeys and turtles. These animals are fed on domestic and garden waste. It usually falls to the men to slaughter animals.

## **Tools**

**Fruit Collecting Poles** K.B. - *tusuk*, Kl. - *repit bua*, P. - *kayeu sok*, L.B. - *bukul* .

These long sticks of bamboo or wood, are cleft at the ends. They are used to aid in the removal of fruit from high branches without the need to climb the tree. From time to time the cleft is produced by the addition of two pieces of wire bound to the end of the stick, but more usually it is cut into the stick itself.

## **Dibble Sticks**

These are produced by every farming family and comprise, a short stick with a point cut into one end and, often, a handle on the other, thus forming a T shape. These are used for boring holes into the ground ready to accept the seeds during planting. When used in rice farming the men bore these holes and the women plant the seeds.

## **Adze and Axes**

Although I saw planks where the surface had been finished using an adze, during my time with the various communities I never found one in evidence, instead all planks now appear to be cut and finished with a chain-saw. Not every family owns a chain-saw and so they have become a means for some people to earn money by their rental. This method of earning money is one

used by Ayub Wan in Lg. Main, he is also the owner of a husking machine, which again brings in an income.

For the most part axes have, like the adze, been replaced by the use of chain saws and so I never saw an example of one. European style axes can be bought from the local markets, but traditionally axeheads were made within the community, by those with blacksmithing skills, and then bound with rattan to a wooden shaft.

## Hoes

The *belawing* (K.B.)(Kj. - *onyang*, K. from Lg. Julian - *beluing*, L.B. - *yu'u*) is a knife with a blade slightly longer than the *pueh*, fixed to a far shorter handle. This type of knife is generally used in the field or garden. It is often found with the blade bent at right-angles to the handle. It is used to remove weeds.

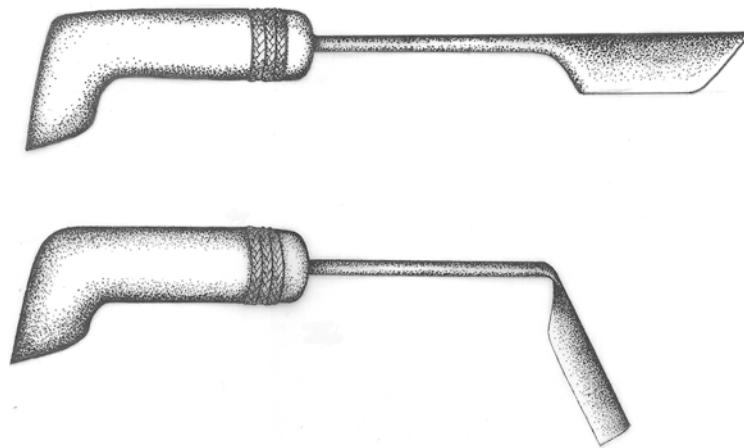


Fig.7.1. A *belawing* used for hoeing.

## Other tools

The other tools used are predominantly the knives already described in chapter 3, more specifically, the parang and *pueh*.

## Baskets

**Chicken Baskets** K.B. - *buaneyap*, Kj. - *ageng*, Kl., P., - *belalung/jalaneyap*

These baskets are designed to hold chickens for transportation, either to the market place, or between the longhouse and *ladang*. It's Badeng name is taken from the word *yap* which means cockerel. The Kenyah Badeng have five different styles of *buaneyap*, made of various materials. All the types have two things in common: an integral lid, with a trap door; to allow for the entry and the exit of the chicken, and a carrying handle, which is also used to hang the basket up, when not in use.

In every community I visited, I saw these baskets hanging up, often beneath the farmhouse, longhouse or rice store. Some of the baskets contained chickens or chicks to prevent them being taken by animals, hunting.

*i.*

Produced by the women at Uma Badeng, the first style of Badeng *buaneyap* I saw and made, is produced from *tetek*, where available, but *tepo'* is frequently used in its place. Strands of these materials are first cut to a width of approximately 9 mm.

The weave is a standard 2/2 diagonal weave and 'mata' are used on the base. Initially the weave forms a square, and then, by dropping off one strand at each end of the weave on every row, slowly transforms into a diamond shape; finally averaging about 300 mm in diameter. When only two strands remain, those with the 'mata'; are crossed over each other to form the corner (fig.4.17.), and the rest of the weave is brought back into play, continuing in a 2/2 pattern, until the sides are about 300 mm in height.

The edge is formed by passing each strand in one direction, round the back of

its adjacent strand, folding it at 90° angle to itself, then passing it over two strands and under the next two (following the weave pattern, see fig.4.21.) where it is then cut off. The strands travelling in the opposite direction, are trimmed off level with the edge.

A length of rattan is split in half lengthways, one half is wrapped around the edge on the outside, and the other around the inside, to form a rim. The ends are tied tightly into place, by piercing holes through the weave with an *solat* and passing a thinner strip of rattan through this hole, then over the top of the split rattan and back through the hole, twice; before passing further along the edge, where the process is repeated.

The top of the *buaneyap* is produced using a single, thick strand of rattan. Large holes are pierced, through the weave, just below the rim at an interval of about 50 mm. The strand is passed through the first of these holes, over the rim and is tied to itself to hold it in place. The strand passes to the next hole along, where it is again passed through the hole and over the rim, but now runs under itself and along to the third hole, leaving a loop on the inside of the *buaneyap*. Once the thread has reached the starting point, it moves inward and passes around each previous loop to form a second row of these loops. This is continued until only a hole big enough for a chicken to pass through is left. The strand is tied on to the next loop and it's end cut off. This weave is called *ngaratung*.

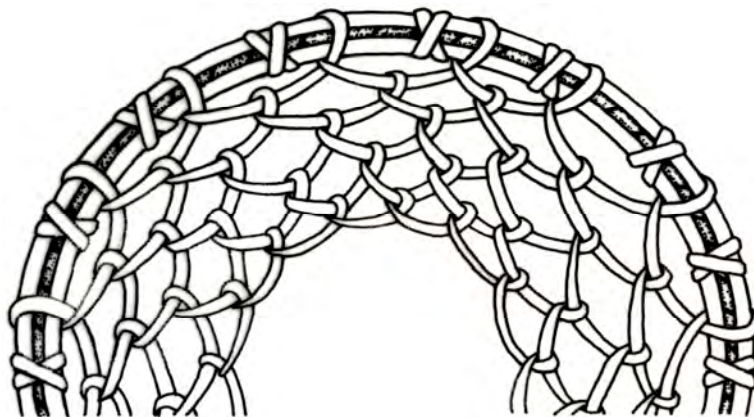


Fig. 7.:2. *Ngeratung* style weave found on the lid.

To weave the door, a ring made of whole rattan, is produced with a diameter fractionally larger than the remaining hole and the inside area of this ring is completely filled with *ngeratung* weave, thus forming a secure door. The door is hinged in place by binding it to one of the loops in the *ngeratung* weave of the basket and a latch is formed from a length of rattan strip tied next to the hinge, then passed across the top of the door (*posan*) and threaded through one of the ties in the outer *ngeratung* weave.

A handle is attached to the outer rim, and is formed from a length of whole rattan, the ends of which have been thinned. The handle is bent to shape, and the thinned ends pushed under the outer rattan ring of the rim; then forced round the handle, through the rim again, before being pushed back through the loop it has just formed, to lie next to the main section of the handle (see fig.4.27.).

*ii.*

The second style of *buaneyap* is usually made by the men, from strips of rattan, with a width of approximately 6 mm. The base is woven using a very open 1/1 weave, with spaces between each strand of about 15 - 20 mm. When an area of around 400 mm has been built up, all the strands are curved upwards, 90° to the base.

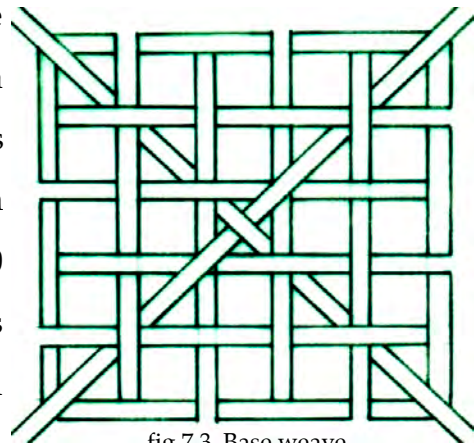


fig.7.3. Base weave.

After an interval of about 70 mm, two strands of thinner rattan are inserted, and instead of being woven, they are twisted through the strands; one passing in front of the strand, the other behind; the two then twist round each other, before proceeding to the next upright. This weave is carried out around the whole circumference of the basket, and is overlapped, where the two ends meet, to keep the twists secure.



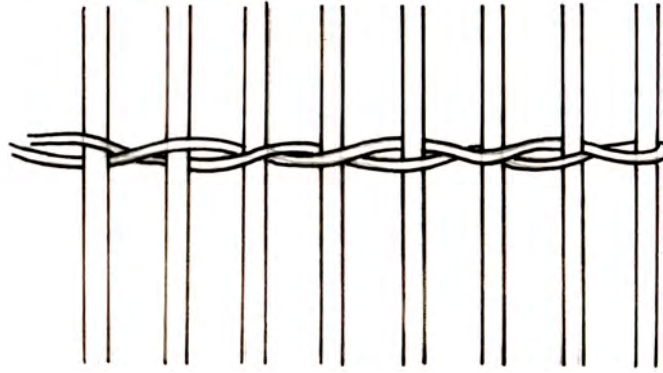


fig.7.4. Securement of strands.

This weave is, again, carried out 70 mm higher up the sides and again, a third time. A ring of whole rattan is then prepared; the ends of the rattan strands pass over the the rattan ring and double back on themselves, a final row of twists is placed just under this rim, essentially holding the ends tightly in place.

In some examples I have seen, a further strip of whole rattan placed around the sides of the *buaneyap*, by threading it under a few of the strands making up the sides; this is presumably to help keep the shape of the *buaneyap*. The top and the handle are produced in the same manner as the previous *buaneyap*.

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This style of chicken basket is also used by the Lun Bawang and is called *belalung la'al*.

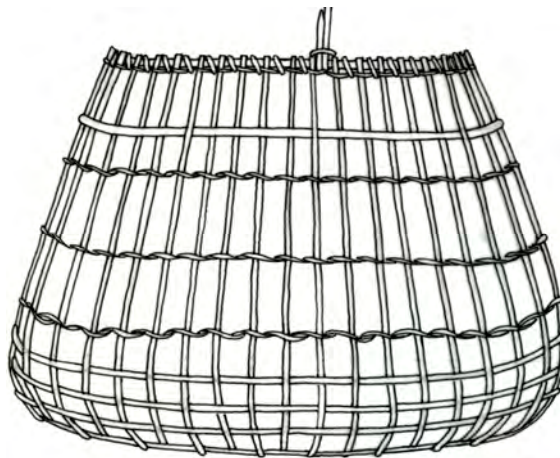


fig.7.5. A complete *buaneyap*.

*iii.*

The third style of *buaneyap* is produced by men and also consists of strips of rattan, approximately 8 mm in diameter, cut in two lengthways. The length of strand depends on the size of *buaneyap* required, large enough to fit a chicken or chick inside. This length should be equal to the height of both sides, plus the width of the base. The number of strands used is dependent on the base width required.

The strands are placed in a row next to each other, with a small gap between each of them. In the area that will eventually form the base, a thinner strand of rattan is then bent double and placed up against one of the end strands. With one length to either side of the strand, these two ends twist round each other before being woven either side of the next strand, thus holding it in place (see fig.7.4). The double weave is continued to the opposite end of the strands. A second line of this weave is carried out approximately 10 cms from the first line.

A ring of whole rattan, with its ends tied together, is placed on to the strands, aligned centrally. The strands are bent up, to the inside of this ring, and are bound into position round the rattan ring. Another strand of thinned down rattan, to make it flexible, is used for this. The rattan passes from the lower edge of the ring, across its front, then proceeds round the back of the strand to come up from underneath the ring, crossing both the ring and the strand this time, before passing along to the next strand. Where gaps exist between the two rows of weave, the binding thread is just wrapped over and over the ring.



Fig.7.6. Progress of the binding strand.

The vertical strands at this point only provide two sides to the chicken basket and so further vertical strands are needed to produce the other two sides. These

new strands are added by bending them in half and looping them around the base section of the last strand at either end, between it and the rattan ring, and at similar distances to the strands in the initial sides.

A second ring, slightly larger than the first, is positioned about five centimetres higher up the strands, making sure that all the strands again pass on the inside of the ring, it is then bound into place in the same manner as before.

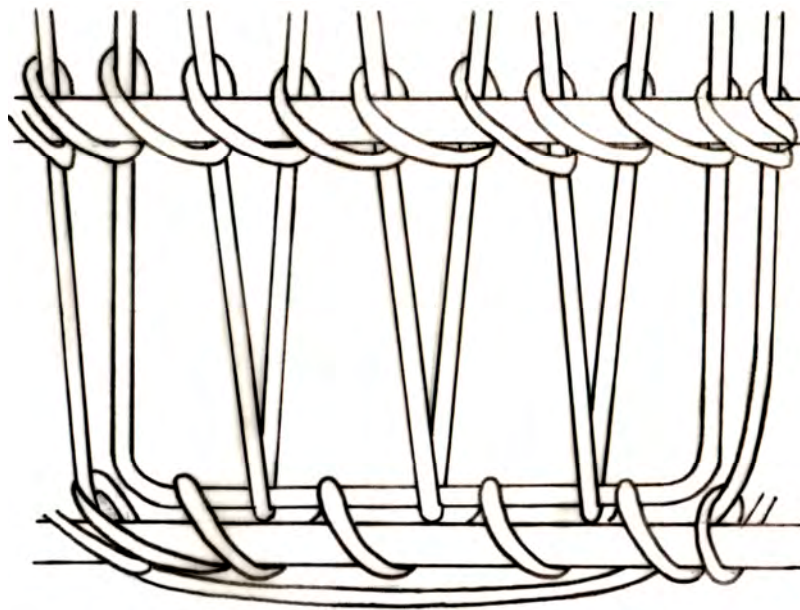


Fig.7.7. The position of the new strands and the second rattan ring.

A third ring of approximately the same size as the second, is added further up the sides and then two more rings above that again. These rings start to reduce in size. Each of the rattan rings is held in place in the same way.

Finally the top is inserted using *ngeratung* weave (fig. 7.2.) seen in the previous types of *buaneyap*.

Two further types of Badeng *buaneyap* are variants of the three, already described.

As can be seen, women usually choose to make the woven variety of *buaneyap*,

whereas men choose to make the other types, drawing on the manufacturing skills necessary in the production of *bubu* - fish traps. Therefore, both sexes are utilizing the skills in which they are most proficient.

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The Kejaman also make chicken baskets to these designs, and it is a personal preference as to the one of their choice, as with the Badeng, it is usually based on where the maker's skills lie.

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The Lg. Belaong Kenyah use two styles of *buaneyap*. The first, is produced using and open 1/1 plaid weave, starting from a square woven base with folded corners and terminating in a whole rattan ring rim and door, both strung with *ngeratung* style stringing. In the same manner as those chicken baskets made by the Badeng (see pl.7.5.).

The second *buaneyap* made by the Lg. Belaong Kenyah is produced using the six strand weave of the Kelabit chicken basket - *belalung la'al*, but formed in the manner of the Kelabit *kelung gai*. where the weave forms hexagon and hexangle shapes, which build up to give a locked, open weave. When making this it is important that all the strands remain parallel to their paired strand and the angles of the weave remain at a fixed 60° (fig.4.22.)

The base of the *buaneyap* is formed as a curve, with the sides slanting inwards slightly. To weave these sides the base strands are positioned so that they are in pairs, with one crossed over the other, it is important that the same strand of each pair is in the top position. The strands are then pulled upwards.

The next strand added, is placed so that it runs horizontally to the base around the entire circumference until it overlaps with its other end, forming the bottom side of a woven hexagon (see fig.4.22). A second strand is added to the side in the same way and is positioned at the distance necessary for it to form the top side of this hexagon. This entire weave is produced so that each strand locks

another solidly into place.

When the height needed to form the basket has been made, the strands are curved over to run back through the weave a little way, to finish them securely. The top is woven like those made by the Badeng, including the handle.

A small mat of a close weave plaid is placed inside the basket, I can only suppose that this is to give the chickens extra comfort and prevent them from trapping their legs in the weave.

I found examples of both rattan and *bemban batu* chicken baskets produced by the Lg. Belaong Kenyah. Occasionally these styles of basket are produced without a lid and used just as a general work basket.

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The Kelabit from Lg. Lellang and the Penan from Lg. Main use the same type of chicken basket. When the basket is made for chickens it is named by both groups - *belalung la'al*, although I have heard Penan from other villages call it both *belalung yap* and *buaneyap*. Both groups make a smaller version of this basket to hold small chicks. It is called *belalung manic* by both groups.

The basics of this basket are the same as for the Lg. Belaong basket, built up from the six strand hexagon/hexangle weave, with a curved base.

The sides are also built in the same manner, but when the desired height has been achieved, the strand weave is changed, from first a 1/1, then 2/2 plaid weave. The strands continue to be kept equidistant and no extra strands are added. Changing the weave has the effect of pulling the width of the basket in, making it narrower. Eventually the strands move close enough together to be touching and so form a neck to the basket. They are turned back, passed around the next strand and pushed back through the weave to finish.

These baskets are all produced from the skin part of small bamboo, or *seblit* (*bemban batu*).

A lid is produced, from the secondary cut of bamboo, in a tight plaid weave, with corners produced from the use of 'mata'. If the lid has been made slightly too large, a thread can be sewn under the rim and pulled tight enough to make it fit well. The production of *belalung la'al* lids for the bases made by Sina Buad Aran, was one of my tasks when living in her home in Lg. Lellang.

A plied string, made from bark, is used as a handle for the *belalung*. This string runs right under the base, coming up on both sides and passing over the top, a long enough length is allowed for the lid to be fitted on easily. The lid has a bark string loop attached on each opposing side. The string for the lid passes through these loops, preventing it from becoming separated from the basket.

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All of these types of chicken basket allow air to circulate and give enough room for the birds to move when they are inside.

Chicken baskets made from traditional materials continue to be regularly utilized. During my research in various Orang Ulu communities, I neither saw other materials being used in the production of these baskets (there certainly does not appear to be a move towards the use of plastics for these objects), nor evidence of other, new forms of chicken carriage.

### **Gardening Baskets**

*The Keratang* K.B., P.T., Lh. - *keratang* P.B. - *alat penari* L.B.K. - *oyat*.

This basket is made by many of the groups in the Asap and Belaga area and follows the same pattern regardless of the indigenous group that produced it. In many ways it is very similar to the *ingen*, and is generally used in a similar manner, to carry large heavy loads such as fruit, and wood, to and from the

farm or the jungle. Due to its slightly open weave the objects carried cannot be too small, or they will be lost.

*Keratang* are produced by women and it is they who use this style of basket most often, as collecting fruit and vegetables is one of the tasks generally taken by them. I found that men prefer to use the baskets that they take hunting and fishing when they go to collect fruit or firewood.

*Keratang* are made from strands of rattan with an approximate width of 4/5 mm, which are sized and thinned using the *janggal* or *pueh*. The weave style is a 2/2 plaid, as used for the *ingen*, the difference being that in this case, it is an open weave, with a distance of about one strand width between each rattan strip.

The base is woven in the same way as the *ingen*, using *mata* for turning the corners, but ensuring all the time, that the strands all remain the same distance apart. When the base has been woven to the required size, usually around 30 cm<sup>2</sup>, the corners are turned, keeping the open weave, and ensuring that the weave is evenly spaced (see fig.4.18).

This open 2/2 plaid weave (see fig.4.13) continues up the side of the *keratang* until the height required has been manufactured, usually about 80 centimetres. The edge is then turned to secure it. At first this is carried out in the same way as the *ingen*, by folding the strands over and weaving them back through at 90° to their original position, but in the case of the *keratang*, once they have passed under and over several strands they are pushed through to the inside and folded back on themselves to make a loop around the last strand, before passing back up through the weave in the same direction from which they came until they reach the edge where they are cut off. The opposite direction of weave is cut away when it reaches the top edge, as these strands are held in place by the other strands.

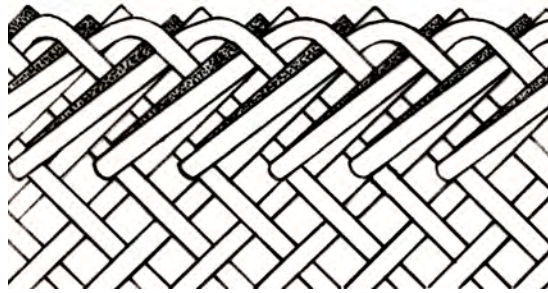


Fig.7.8. Keratang edge weave.

The rim is formed from a single piece of rattan, split and tied into place at intervals, this is found to make a sufficient rim for the Penan Talun and Kenyah Badeng, but in some cases a second rattan ring is attached above this, examples of this are found on *keratang* produced by the Lahanan. These rims are made in the same way as the rims found on *ingen*.

The *taket* (P.T. - *ngum*) are attached in the same way as *taket* on *ingen*, but in this case the choice of designs are reversed. The crossover found on the base of a Penan Talun *ingen*, is used on the Kenyah Badeng *keratang* and vice versa. The woven base of the Kenyah Badeng *ingen*, called *abut*, is used by the Penan on their *keratang*, they call it *lotok*.

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The Lahanan choose to use the cross over style for their *keratang* bases, as do the Sekapan, for their *penari*.

The straps remain the same in all cases and are attached in the manner as seen for the *ingen*.

**The *Gai*** (K.B.)Kj. - *ti'in*, Sk. - *tebowa*.

The *gai* is a cylindrical basket, of rattan; used by the Kenyah Badeng for collecting fruit from the rainforest and their gardens. It stands approximately 35 cm high, with a 25 cm diameter. Its strength is produced by four whole rattan rings, two round its base and the other two round its top edge. It also has two carrying handles, again formed from rattan, these are hand held. The Sekapan also produce this basket, *tebowa*, from *bemban* which they call *bivan*. Again they



use this basket mainly to carry fruit, but it can be used for any kind of garden produce where necessary.

The weave for this particular basket is formed from single strands running in three directions. The strands for the basket are made from rattan with a diameter of about 7 mm. These strands are initially folded in half to find their centre point. Two whole rattan rings are then placed one inside the other and bound together. The centre of the strand is placed over the outer rattan ring, with one end passing between the two rings, so that it is held tightly, between the two. The two strand ends are then moved apart from each other, producing a V shape. The number of strands used around the ring is dependent on its size, but has to be an even number. When the required number of strands are in place, the weave is started.



Fig.7.9. Starting position for strands in a *gai*.

To start, these strands are woven in their pairs as shown in the figure above, the middle two strands crossing, then the outer two strands passing over the top of these before themselves crossing, producing a diagonal weave. These are then locked into place by a strip running parallel to the base under two strands and over two, all the way around to its start point, where it continues through the next few weaves, so that it is securely held in place. This process is then repeated until the height needed has been achieved. The third rattan ring is placed on top of the weave, and the strands are passed over it to the front, where they pass back down, through the weave to the initial two rings.

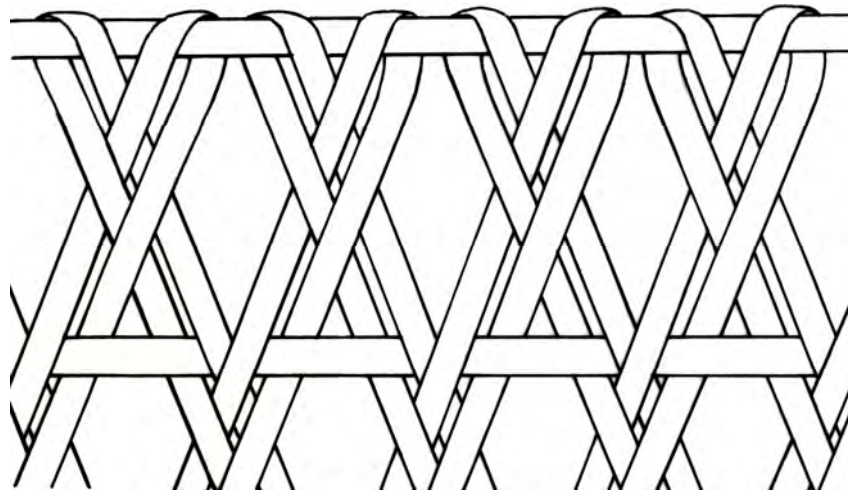


Fig.7.10. Position of the horizontal weave strand, the third rattan ring and the second weave position.

The strands pass back between the two rattan rings and are pushed back into the weave to hold them, before they are cut off.

The fourth ring is wrapped around the outside of the initial two rings. A very long, thin strand of rattan is then bound around the three rattan rings, passing through the weave on each rotation, to produce a strong and durable rim. This becomes the top of the *gai*.

The base for the *gai* is produced from a very long thin strand of rattan, at its centre it is tied to the innermost rattan ring. Each end passes along the inside of the ring for approximately 60 mms in opposite directions, there, it is again passed between the two rings from above. It passes over itself, before moving further along the perimeter, to be tied to the edge again. When the two strand ends meet, they continue over each other, filling in the ties, so that there is only approximately 30 mm between each. Where the two strands pass over each other, the upper strand remains in that position each time. Once a single round has been made, the loops already produced take the place of the rattan ring and the pattern continues, with each tie being placed in the centre of the previous loop. Eventually the entire base is filled with this weave, and the strand ends are threaded from the centre to the edge, where they are tied off.

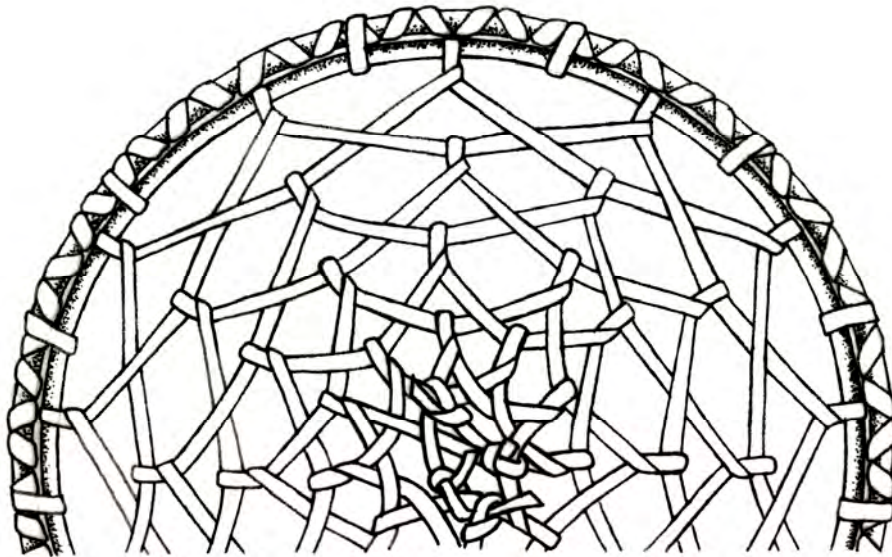


Fig.7.11. Double strand *gai* base.

Looped weaves of this kind, using two strands are very durable, and make an ideal base, because, should a strand become severed, the second strand remains strong and will keep the contents in place.

The two handles for the *gai* are made from lengths of half rattan, covered in weave of the same type found at the beginning of an *ay* (see fig.4.28.). Four strips of rattan being placed over the centre of the half rattan, in pairs, to form an interlaced diagonal cross at their middle. One of the strands at each end is then passed under the half rattan to the other side where it then passes through the pair of rattan strips before it returns to own side. The top strand of the opposing pair follows this same course, thus the weave is worked away from the centre of the handle towards each end. When the end has been reached the handles are bent to shape and positioned against the rim of the *gai*, one on either side. The rattan strands from the handle pass through the binding of the rim, to hold the handles firmly in place, before being pushed back up through the weave for a distance, following the pattern, the ends are cut off, completing the *gai*.

Like many other forms of basket, the *gai* today, is often produced from plastic packing strip and so can be seen in many new colours, previously unseen.

### *The Kelung Gai* (Kl.)

The Kelabit *kelung gai* is predominantly used for the collection of firewood. Its shape is tubular, with a slightly convex base. Its weave is similar to a Badeng *keba anyam* (see chapter 8) but its sides are of double strands.

Although this basket is made by Kelabit women, it is skill that the men also possess. I was taught to make this basket by Salalang, but her son Apoi would often help us out as can be seen in plate 7.13. Whilst making this basket I sustained one of my worst rattan injuries, as a strand flicked back and hit me in the eye, giving me a scar and black eye so severe I could not open the eye for several days.

The *kelung gai* is started in the centre of the base, using six strands. The strands are laid in pairs at 120° to each other, forming a hexagon, with points radiating from each of the sides to produce a hexangle star. From this point, further strands are added, working radially outwards, parallel to each of these three lines. Each strand has to work over one strand and under the next, no two overs or unders ever being positioned next to each other (see fig.4.22.). This locks the weave making it unable to move or undo.

When an area large enough, for the base size desired, has been produced, each strand is folded upwards at 90° at the point where they cross over each other. Two of the arms of the hexagon now run parallel to the base. The weave then continues, forming the same pattern as the base. The weave is continued until the required height has been achieved, at which point each strand is brought back at 90° to the trajectory it was following, leaving a curve, then passing back through the weave to the base and trimmed off. The strands running horizontally also need a second strand to be added to make up their thickness, this is pushed through with the help of a *wat* (see fig.3.11 - *solat*). Often a weave of four rattans is added, through the top of the basket, similar to the three edge strands found on the *keba kaleng* (see fig.8.7), making the region where the

strands bend over far stronger and less prone to movement and stress.

A frame is produced in the same way as for the *keba* from large rattan with right angles cut in at the corner positions to aid in bending, and bound over the overlaps with a further rattan strand. The frame is tied to the basket using rattan ties travelling round the frame, through the weave and then down the inside to the next position, until secure.

Loops are attached on the base towards the back and also at the the top of the frame sides, the shoulder straps are attached to these loops. The straps are of woven rattan and are joined together through the loops with a rope of plaited rattan.

Originally a band of wood would have been placed across the base of the frame, the size of which depended on the size of the *kelung gai*, this was to give protection, from movement, to the lower spine. It is not found on modern baskets of this style, but why this is not now the case was something of a mystery as no one I spoke to could give me a reason for its disappearance.

### *The Kelung* (Kl.)

This basket is very unusual and rarely seen, to date I have only seen two examples in all of the Baram region I visited. The first belonged to a Kelabit in Marudi and the second was at Lg. Lellang, it was owned by Sina Buad Aran who knew that this example had been bought from Lg. Seridan, but had no more information to give me.

The basket is produced from thin, whole rattan woven in an overlapping loop shaped weave, which gives the impression of hearts.

The *kelung* is started from a flat bottom of lines of rattan loops. When the end of a line of loops is reached, the strand is carried down to the next row where it

starts again. This is continued until a square has been built up.

The sides are added by working from the base up, in the looped weave, the bottom of every 'heart' passing through part of the edge of the base square, to hold the two together. The shape of this basket is flared, the hearts becoming larger and more spaced the higher up the sides they are.

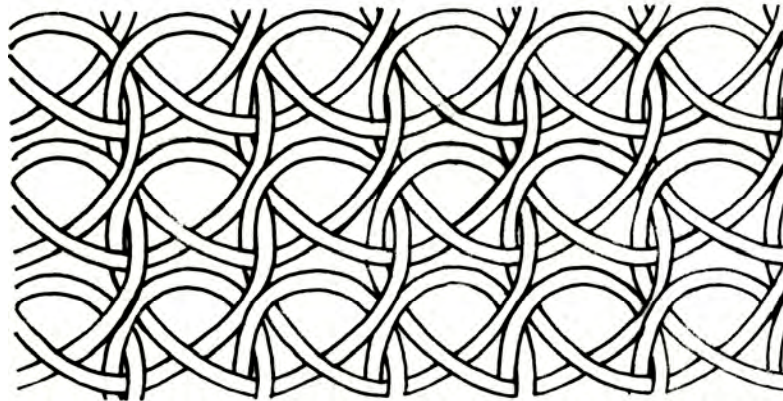


Fig.7.12. The looped weave of a *kelung*.

Across the base, and up the sides, can be seen a second weave, forming what appear to be eight woven, vertical, strengthening struts. The struts are evenly spaced, four from the corners with another positioned half way between each of them. They are worked from two strands passing through the loop overlaps, one from the front, the other from the back, before moving upwards to the next row of loops. This pattern continues up to the rim.

A plaited rim of four strands is found running around both the base and the rim. These four strands are divided into pairs and worked through the weave from opposite directions in the manner of the three strands found on the *keba kaleng* (fig. 8.7.).

A head strap is used on this basket and is held on by passing a string through the weave several times and then tying it to the strap.

I can only guess that this basket is used for the same types of loads already

discussed for the *keratang*, *gai* and *kelung gai*.

I saw a further basket of this heart shaped weave in Lg. Semiyang, a Kenyah community on the Upper Baram river, but the shape differed from the example described above, following the lines of the *kelung gai*. I was unable to ascertain the provenance of this basket or its use from the people here.

As this weave is so rare I can only assume that the style is dying out. I asked many makers now working if they knew the weave style, but many had never seen it and none had woven it. They all said they did not think they could copy the style although it is likely that Salalang from Lg. Lellang will try to reproduce the weave. It is also possible that makers do still exist in either Lg. Seridan or Lg. Semiyang. Certainly this weave is not widespread.

### **General Usage Baskets**

The Lg. Belaong Kenyah use baskets made in the same style as their *buaneyap*, but without the lid. A single handle is attached, produced from a whole rattan which is doubled back on its self, through the weave to give extra strength. A strand of rattan is woven over the two loops of whole rattan to hold them together.

A further basket is made by the Lg. Belaong Kenyah in the same way as a Badeng *bakun* (see chapter 9), using a spoked centre made from an odd number of whole rattan canes. Thinner rattan travels in and out of the spokes in a spiral, building up a solid weave (see fig.9.16.). A rim of whole rattan is tied to the outer edge to strengthen it and a single handle produced as for the style above.

## *Storage*

Tools and baskets used at the garden are stored in various places: farmhouses, rice stores, on back verandas at the village, if baskets contain produce they may be found in the kitchen. I often saw baskets containing chickens and other small animals hanging under houses out of reach of predators.

TYPE OF OBJECT		MADE BY		FAMILY USE		FOR SALE
Wood/Metal	Other Plant Material	Male	Female	Male	Female	
Dibble stick		✓		✓		
Fruit poles		✓		✓	✓	
Adze & Axe		specialist		✓		✓ locally
Hoes		specialist		✓	✓	✓ locally
	Chicken baskets	occ.	✓	✓	✓	
	<i>Keratang</i> basket		✓		✓	
	<i>Gai</i> basket		✓		✓	
	<i>Kelung Gai</i>		✓		✓	
	<i>Kelung</i> basket	unknown			✓	

Fig.7.13. User/Maker table.



## RAINFOREST AND RIVER

### *THE FOREST*

The uplands of Borneo are covered in rainforest, which is used by the various populations who dwell within its bounds. All of the Orang Ulu utilize the rainforest, but the most efficient of the many users are the Penan:

‘It must be realized at the outset that the Penan have a profound sense of affinity with the forest, for it plays a central role in their lives. The forest, to the Penan, is a source of subsistence, a source of income, a home and a source of many other activities that enhance life.’ (Langub 1993).

The other Orang Ulu find the materials they use in construction and object manufacture within the rainforest; including; additional foodstuffs; traditional medicines; and trading products.

### **Hunting**

Hunting birds and animals, is one of the two main ways in which the men of the *Ulu* procure necessary dietary protein for themselves and their families.

Recently many of the species of animal, formerly hunted, have become protected to conserve their numbers, but these rules are broken, often by non-rural populations, using the area for sport and profit. Local people generally only take the meat they require for food. All those living in rural villages are allowed to kill the bearded pig (*Sus barbatus*) and some of the several species of deer, for the consumption of their families, but it is illegal to offer these meats for sale.

Blowpipes were the commonly used method of hunting by all of the indigenous people of Sarawak, before the introduction of the shotgun and cartridge. Today, it is only the various Penan groups who still use them and

they use shotguns where available. The reason for this continued use of the blowpipe is due to the lack of access to cartridges. Cartridges have to be bought in very small, limited quantities, at great price, from licensed shops in town, although many people now reload cartridges where possible (Puri 2005:209). The high price is partly due also to the cost of getting to the nearest town to make a purchase. All shotgun owners have to be fully licensed, as part of vigorous Malaysian gun control laws. If shotguns and cartridges become more easily obtainable blowpipes and the equipment which accompanies them will die out completely. In areas where guns and cartridges are already accessible, or someone has gunsmithing skills, blowpipes have already disappeared.

‘Nearly all of this party of hunters were armed with sumpitans, which were as usual of dark hard red wood, and had a spearhead, lashed on very neatly with rattans on one side of the muzzle, and an iron sight on the other. The arrows were carried in very neatly-carved bamboo cases, and were themselves but slips of wood, tipped with spear-shaped heads cut out of bamboo. The poison looks like a translucent gum, of a rich brown colour; and when dipped into water of a temperature of one hundred and fifty degrees, it began to melt immediately; but on being withdrawn and placed over the flame of a lighted candle, it instantly became hard again. The butt of the arrow is fixed in a round piece of the pith of a palm, which fits the bore of the blowpipe.... On enquiry, I find that none of the people of these countries can manufacture the sumpitan themselves, but purchase them from the traders, who procure them at Bintulu and Rejang from the wild Punans and Pakatans, and therefore very dear and highly prized, and no price offered will induce a man to part with a favourite sumpitan.’<sup>15</sup> (St. John vol. 2, 1862 89-90)

Speaking about the Penan, I was told:

‘Historically, when they were nomadic, both sexes hunted. But when

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<sup>15</sup> Sumpitan is the Malay word for a blowpipe.

they settled, women tended to keep to house chores because it was physically lighter work. Because of this, men tended to be the ones in the forest so, therefore they became the hunters by default.' (pers. com Saloma Jalong 2005).

I found, in the other groups I visited, that it was always the men who went out to hunt, the women's time being taken up with the farms and gardens.

Hunting is often carried out using dogs to bring the animals to bay so that the hunters can move in for the kill, using a spear. These dogs are only small, but apparently if the dogs are good hunters, two of them can bring down an adult male pig.

### **Hunting Equipment**

#### **Blowpipes and Accessories**

*Blowpipes* K.B. - *keleput*, Kl. - *put*, L.B. - *eput*, P. - *keleput*.

Unfortunately it was not possible for me to see a blowpipe being made, the information about production was given by Wan Bakun from Lg. Sait (who produced two to order for me) and Jalong from Lg. Main (pers. com. 2003), both men are Penan, who continue to occasionally make blowpipes and use them regularly.

Blowpipes are made from a light, hard wood, (with no branches) for the necessary length, approximately 2 m. Initially a hole is bored down its centre, using an iron rod. Because of its length it is mounted into a platform so that the manufacturer can stand above it to work. Wood dust is removed from the bore by pouring water down it and floating it out. There is a slight curve on the bore, when looking down the inside of the blowpipe, only half of the opening at the other end is visible. According to Hose and McDougall this is to counteract the weight of the spearhead when it has been attached, thus pulling the bore straight (1912 (i):216).

Once the hole has been produced, the insides are smoothed using lengths of rattan pulled back and forth, in the same manner as sand paper. When the inside is clean and smooth, the outside is shaped and finished.

At the end situated away from the mouthpiece, a spearhead of iron or steel is attached with rattan bindings, this doubles both as a sight for aiming and if necessary also makes the blowpipe into a spear. (Puri 2005:206/7 & 233)

**Dart Containers** K.B. - *telok langgan*, Kl. - *selungan*, L.B. - *telungan*, P. - *terlo'*.

The bamboo container is made in the same manner as other solid material containers. A large bamboo, is cut just below two consecutive joints, producing a tube which is sealed at one end. A small lobe of bamboo is left, sticking out below the base level of this container. The top of the container is recessed around its circumference and decorative plait woven into the cut.

These containers have a lid made from a second, larger piece of bamboo, with a diameter slightly greater than that of the bamboo it is to cover, which also incorporates a joint, thus sealing one end. To create a good fit, the inside of the lid and the outside of the container are shaved slightly, aiding the seal when pushed into place. The lid is also recessed with an inserted plait.

A double pronged fork (P. *ja'ang*) reaches from part way down the lid, to just below the base of the container. It is attached to the side of the container with the lobe by one prong, held in place under the recessed plait and bound to the lobe with rattan. Binding the prong to the lobe gives it stability and holds it in place vertically to the container.

The prong is often decorated with notches, finishing in a carved terminal at the top, but can also be plain, or for the most basic *terlo'*, made from a forked stick. The prong is to allow the dart holder to be hooked on to a belt or previously a *chawat* (loincloth) whilst hunting.

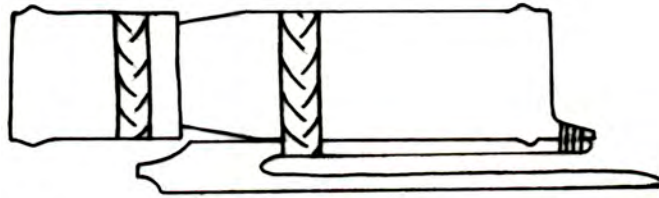


Fig.8.1. A dart container with carrying hook.

A string is positioned on the opposite side to the lobe, it travels under both of the rattan plaits and is slightly loose, allowing the top to be removed without being lost.

**Dart Head Holders** K.B. - *urung*, Kl. - *rabuh kerak*, L.B. - *beri-kara'*, P. - *tabo*.

A dart head holder is made from a dried gourd (various types are used). The top end of the gourd is cut off and the innards scrapped out. As the gourd dries more of the inside breaks up and is easier to remove (pers. com. Lawai Tu'uh 2005). The drying process takes months, leaving the hardened skin and an empty chamber.



Fig.8.2. A dart head container with attached bung.

A stopper is carved from wood to fit the opening. This has a hole drilled from top to bottom, through which a string passes, the string continues into the opening and then from the inside, through the side of the gourd, where a knot is tied. The other end of the string can be attached to the dart holder or a belt. Due the integral function of this string, no part of this container can become separated from the rest.

The dart heads are made from wood and are kept in this prior to shooting.

**Darts** K.B. - *langgan*, Kl. - *paril langan*, L.B. - *langan*, P. - *tahat*.

The darts the *terlo'* holds are called *tahat* by the Penan, they are made from the sago palm. The shafts (P. *tahat*) are produced from the outer material of the

central leaf ridge which is cut into approximate lengths of 15 cms with a thickness of 1.5 mm, a point is shaved at one end - *belat*. A plug (P. *lat*) is positioned on the unshaved end of the dart, this plug produces a build up pressure behind the dart, propelling it forward when blown. The plug is made from the inner pith (L.B. - *paul*) of the the central leaf ridge. It is slightly tapered in longitudinal section, circular in cross section, with flat ends. The smallest end of the taper being the end into which the blunt end of the shaft is pushed.



Fig.8.3. A dart.

Fired from a blowpipe, the darts are often poisoned. This poison (P. *tajim*) is cooked from the sap of various trees, the most common being from the *Ipoh* tree (*Antiaris toxicaria*) It takes 1-2 minutes to paralyse an animal. The antidote for this is also carried in case of accident. This also comes from a tree and is made into a tea, by boiling. It is said that the poison will not kill a man unless he is already sick or old, but can make him very sick. This sickness is not as bad at night, due to the cooler temperatures, but can be very bad during the day. Darts are used to hunt game for the table. (pers. com. Katherine Lajo 2002)

The dart is placed into the blowpipe. The blowpipe is held with both hands close to the mouth piece and aimed along the shaft to the spear tip. A short puff is then given, which propels the dart towards the prey.

#### ***The Bebukan* - P.**

Along with the darts a small tool is kept in the *terlo'*, this is used to form the hole in the centre of the *lat*. It is produced from a single length of hard wood consisting of a handle with a point at one end.



Fig.8.4. A bebukan.

## **Spears (K.B. *nyatap*)**

Spears consist of a piece of round section wood, often a straight branch, approximately six feet in length. An iron or steel spearhead is attached to one end. The spearhead is smithed in the community and is tied into place within a recessed groove, using rattan. They are used during hunting especially for larger animals.

## **Traps**

Traps are also used for hunting animals and birds,<sup>16</sup> they are usually made from materials sources in the locale where the trap is to be set.

‘A variety of trap is: sprung-spear traps equipped with sharpened bamboo to kill wild pigs or deer entering the farm along paths, or snares, nooses and box-traps to catch macaques and rodents. (King 1993:181)

The traps I saw, belonging to Tama Kapong Aran at Lg. Kramo’ were positioned close to various animal runs near to his fields. They was made from a rail leading the creature into a sprung snare produced from bent branches and a length of nylon. He found that he most frequently caught birds and rodents, but said that the trap was strong enough to catch small wild pigs (pers. com. 2002). These traps are mostly used as a way to protect the fields from predators.

All the equipment utilized in the various hunting methods are produced by the men in the family with the exception of spearheads which are smithed by a local specialist. It is generally the men who use these items, but not always.

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<sup>16</sup> Further information on traps can be found in Hose & McDougall - 1912 - The Pagan Tribes of Borneo vol 1 p145-149 & Skertchley - 1891 - On Some Borneo Traps - J.A.I. vol.20 p211 - 219.

Fig.8.5. Forest Produce Table.					
	Home use	Export	Barter	Past	Today
<b>FOOD</b>					
Sago	✓	✓	x	✓	✓
Tapioca	✓	x	x	✓	✓
Honey	✓	x	✓	✓	✓
Edible birds nests	x	✓	✓	✓	✓
Salt	✓	x	✓	✓	✓
Illipe Nuts	✓	✓	x	✓	?
Fruits	✓	x	✓	✓	✓
Vegetables	✓	x	x	✓	✓
Mushrooms / fungi	✓	x	x	✓	✓
Edible ferns	✓	x	✓	✓	✓
Water	✓	x	x	✓	x
<b>RESINS</b>					
Gutta-percha	✓	✓	✓	✓	x
Gutta-jangkar	x	✓	x	✓	x
Gutta-jelutong	x	✓	x	✓	x
Dammar	✓	✓	✓	✓	✓
Periangat (L.B.)					
from insects	✓	x	x	✓	✓
Beeswax	✓	✓	x	✓	?
<b>INCENSE WOODS</b>					
Gharhu	x	✓	✓	✓	✓
Camphor	x	✓	✓	✓	x
Akar Laka	x	✓	✓	✓	✓
<b>ANIMAL PRODUCTS</b>					
Bezoar stones	✓	✓	✓	✓	rare
Rhinoceros horn	✓	✓	✓	✓	x
Hornbill ivory	✓	✓	✓	✓	x
Gall bladders	✓	?	✓	✓	✓
Meat	✓	?	✓	✓	✓
<b>MANUFACTURING MATERIALS</b>					
Rattan	✓	✓	✓	✓	✓
Hard woods	✓	✓	?	✓	✓
Bamboo	✓	?	?	✓	✓
<i>Bemban batu</i>	✓	✓	✓	✓	✓
<b><i>Pandanus</i></b>	✓	✓	?	✓	✓
<b><i>Hornstedtia</i></b>					
<b><i>scyphifera</i></b>	✓	x	?	✓	✓
<b><i>Donax arunda</i></b>	✓	x	?	✓	✓
Barkcloth	✓	x	✓	✓	rare
Dye materials	✓	x	✓	✓	✓



## Collecting Forest Produce

Collecting jungle products has always had a role in the lives of the Orang Ulu for various reasons:

- For Penan and other groups who were previously nomadic, collecting produce gives them much of their food and thus a means of survival.
- For swidden farmers it is an important means of supplementing the diet, by the addition of wild fruits and vegetables.
- For all of the communities in the Ulu, collecting provides materials for building, basketry and clothing.
- For many people it provides bartering products that can be exchanged for necessities such as salt, which is only found in certain areas, such as the Bario highlands.
- It provides many of the medicines used traditionally.
- It gives fuel for heat, light and cooking for all the communities in the form of firewood.
- It supplies many of the cultivatable plants used by swidden farming groups.

Saloma Jalong says this of collecting firewood:

‘because the men are usually out in the forest or field and the women are at home, they get to gather firewood normally, but men help too. They tie the firewood with rattan and carry the load on their backs. No specific baskets are used.’ When I asked her who collected weaving materials and fruit and vegetables from the jungle, she said ‘Both sexes do, depending who is free at the time’ (pers. com. 2005).

With the exception of the Penan, the gathering of food stuffs like edible fungi and vegetables for the most part falls to the women. Whereas, everyone will bring fruit back to the home if they find it, small fruit is frequently gathered by teenagers and children and men are the collectors of the larger fruit such as durian.

The Raja Brookes' government encouraged the collection of jungle products by the people of the Ulu, to provide income. This brought about a change of the regulations in 1888:

'the Kayans<sup>17</sup> and Kenyahs were brought into the cash economy of the bazaar at Claude Town (Marudi). In less than a decade of their exposure to this new system of cash, credit, advances of goods, and contact with upriver boat traders, the Kayans and Kenyahs had seized these new opportunities to their advantage.'(Ooi Keat Gin 1997:232)

Today jungle produce is still collected by the Orang Ulu (see fig.8.5<sup>18</sup>). With several exceptions, most of the produce collected today is for use by the family or for sale and exchange with locals for example food stuffs, manufacturing materials, dammar and *periangat* which are used for knives, to hold the blades in place.

A lot of the products collected in the past for export are no longer economical, such as the various wild rubbers. Trade in many of the animal products is now illegal as the species from which they are taken are endangered. The fines would amount to many thousands of Ringgit Malaysia and/or imprisonment so most people are not willing to take this risk. Those products that are still collected for export bring in huge revenues for the collectors.

*Gharhu* is a product from: 'an evergreen tree with sweet, white blossoms whose scientific name is *Aquilaria*. Its response to infection by the fungus *Philiphora parasitica* is to produce an aromatic resin that infuses its own tissues. the resin-impregnated wood is the world's most valuable incense: aloeswood,' (Hansen 2000:3). *Gharhu*<sup>19</sup> is still collected as often as possible because of the large monetary rewards. The problem today is that it has become very hard to find and often involves trips of several weeks. (pers. com. Okang Lipun 2005)

Okang from Lg. Geng is a pre-eminent collector of *gharhu* and is now looking

<sup>17</sup> The Kayans are the largest group in Sarawak.

<sup>18</sup> *Gutta Percha*, *Gutta Jelutong* and *Gutta Jangkar* are all forms of wild rubber.

<sup>19</sup> Also see Donovan & Puri 2004 [online].

for ways of growing the trees locally and impregnating them with the fungus.

Edible birds nests are still collected regularly for sale. They are the 'Small semicircular nests of swiftlets, derived from saliva built into the crevices of walls and roofs of limestone caves. The collection of these nests, which are perched high up on the walls and ceilings of caves, is a skilled and highly dangerous occupation... Collection is made twice or three times a year. (Ooi Keat Gin 1997:357)

These bird nest caves are owned by individual families, who protect their rights to them and the nests scrupulously, but a huge trade in illegal bird's nests carries on as many of the caves are in remote areas. It is the men who climb up to harvest the nests. Today people are starting to encourage swiftlets to build their nests in buildings near to villages, so that the nests can be easily collected and the owners can benefit from the income from their sale. Several of the families I met during the course of this study either had bird nest cave rights or were in the process of building houses for the birds.

As can be seen from figure 8.5. most of the items that were and still are collected, are large in size and heavy, so strong baskets are required for these collecting trips. Due to the fact that some trips can take days or weeks, the basket has to be large enough to allow provisions to be carried, so *keba* are used. Smaller produce is often collected into baskets like the *blanyat* and *serut* (see Chapter 10).

Long trips are undertaken by the men in settled communities as well as the Penan (Puri 2005:177), whereas the women will make short excursion for certain food stuffs and dye materials. Previously water would also have been collected mainly by women, but now it is generally piped to the home.

## Baskets used in the Ulu

### Heavy Baskets

*The Keba* - K.B. & U.B.; Kl. - *ayit*, P. - *selabit/kivah*, Kj. - *baletkan*, L.B. & U.B.K. - *bekang/berkang*, P.B. - *kiyang*.

*Keba* are heavy duty baskets carried on the back. Hose & McDougall (1912 (i):212) describe the *keba* as: 'the large rough basket used for carrying on the back water vessels or any other heavy objects'. They are used for heavy and bulky loads and can be expanded as required. The heavy loads include larger garden produce like tapioca root and pumpkin, firewood and wood that is used in manufacturing tools etc. I have seen men returning to logging camps, with all their belonging in a *keba*. Previously a *serut* would have been used, and to an extent still are; but with the wish to take more, and bulkier personal belongings, larger carrying baskets are often being utilized, I have even seen large electrical goods, including sewing machines carried in a *keba*. In the Koyan/Asap area the use of the *keba* seems to be confined to the Kenyah and Kayan communities, the Penan Talun and others preferring to use the *ingen* and *keratang*. All the Baram groups, including the Penan, use *keba*.

Within most groups they are predominantly, but not exclusively used by men, as it is they who tend to carry extremely heavy loads (other than *padi*), whereas Penan of both sexes use these baskets. They are made for personal or family use.

All of my friends when they accompany me from village to village take their *keba* and will often add my rucksack to its contents. These baskets are always used when the men are working as guides. I did notice that the younger men will exchange the *keba* for a rucksack if they are travelling into town.

There are several different types of *keba*, but they all have several factors in common. They are made from an open weave of great strength, attached to a

sturdy frame; have shoulder ties for carrying them and a front panel, which is hinged at the base, with movable straps across it, so that it can be expanded for larger loads. In some cases the *keba* is backed with hard wood, rather than with a woven rattan frame.

(i) *Keba Kaleng* - K.B., U.B. & U.B.K. as K.B. unless it is decorated - *berkang kalung*, Kl. - *ayit wei teburo*, P. - *kivah*, L.B. - *berkang*, Kj. - *balekan*, P.B. - *kiyang*.

This type of *keba* is produced from relatively thin, (approximately 4 mm), whole rattan (only the outer prickly skin having been removed), using a figure-of-eight design, from a single strand of rattan. The length and width of the weave is dependent on the required size of the finished item. The side/base panel is woven as one and the front and back panels as separate elements.

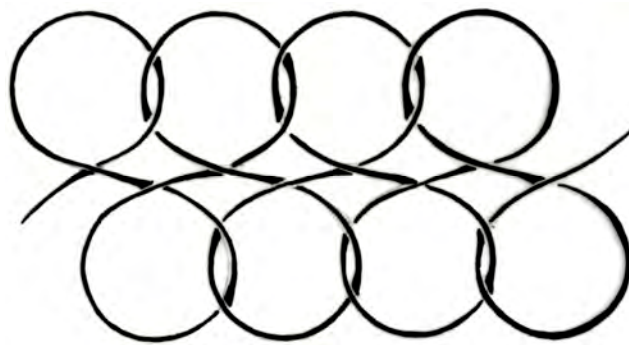


Fig.8.6. Figure-of-eight weave.

As the weave progresses, the maker has to stand upon it, to keep it flat and to ensure the weave is tight. When the required length has been reached, the rattan is cut off, the tightness of the weave holding it in place.

Three new lengths of rattan are introduced into the weave to form an edge. The first strand of the edge passes through one of the edge loops, approximately half way along the weave of the the completed piece, corresponding to the base of the *keba*. From here it then proceeds on to the fourth loop along, where it again passes through an edge loop, this continues around the entire edge, until the beginning is reached again. A second strand is

passed through the loop next to the initial strand, and is woven round the first strand before passing on to the fifth loop, continuing again until it reaches the beginning. A third strand is then introduced, and follows the same course as the preceding two, filling all the remaining gaps. The three strands are woven simultaneously. When the strands have reached the end, they are pushed through their initial loop, before being cut off.

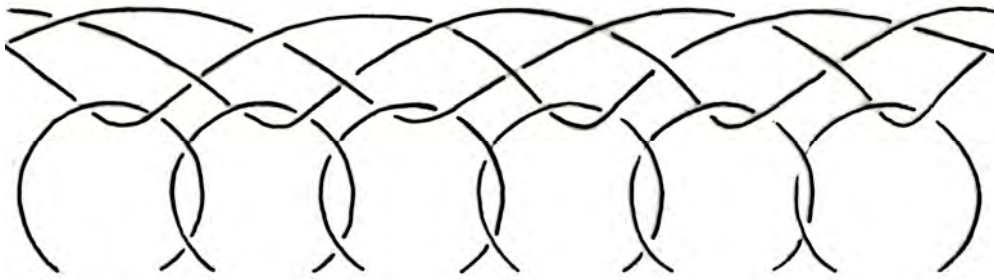


Fig.8.7. Addition of three edge strands.

The frame for the back (U.B.K. - *benen*) of this *keba* is produced from a length of much thicker, 15 mm, whole rattan. It is notched, so that it forms a rectangle, when folded, with the two ends overlapping at the top, making a double thickness of rattan here. The side / base section is then bent round to form the shape of the frame so it can be tied to it.

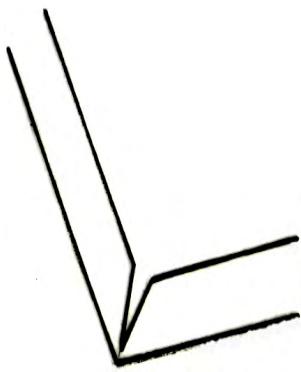


Fig.8.8. The notched corner.

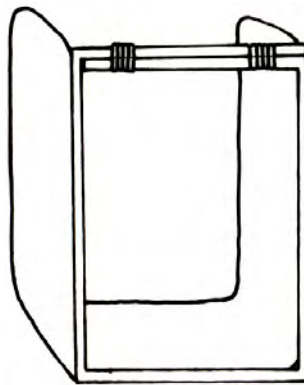


Fig.8.9. The frame shape.

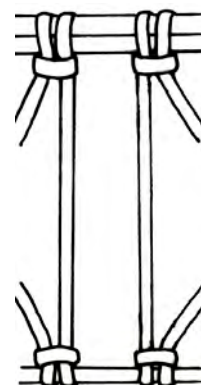


Fig.8.10. Stringing attachment.

Rattan strips are strung across the longer length of the rectangular frame, with their centre resting at the half way point. An open hexagonal weave is formed in the same way as for the *tempan* of the *ingen*, but when each strand reaches the edge to loop round, it also takes in a section of the side weave, thus holding

the sides in place. The strands from the opposite end are woven back up through this weave, approximately two thirds of the distance, producing a tighter weave in the bottom section. It is finished by weaving the strands across to the frame where they are cut off.

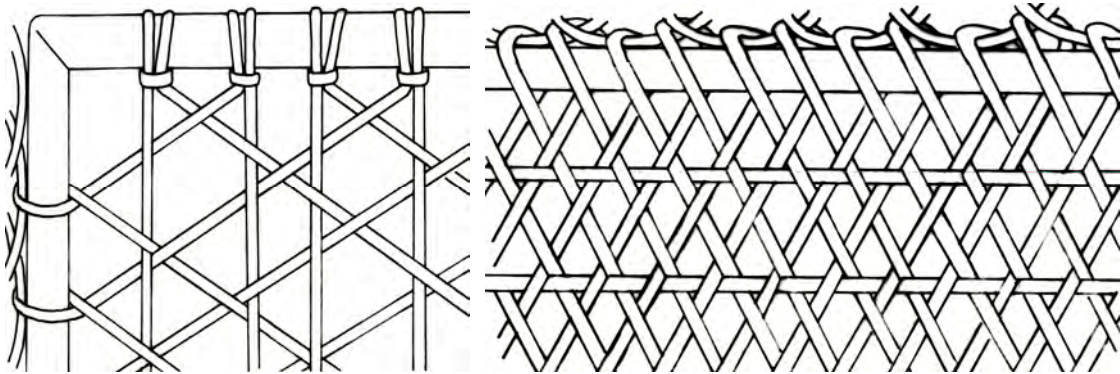


Fig.8.11.& 12. Weave for the back, incorporating the sides to hold them into the frame.

A variation of this tighter weave at the base of the back, is to use a solid plank of wood for the back, with holes drilled along its edge so that sides can be tied on securely.

The front/ door (K.B. - *pamen*, U.B.K. - *abab*) of the *keba* is produced in exactly the same manner as the sides/base, and reaches from the base to the top of the sides. It is held in place by two rattan bindings attached to the base, which act as a hinge. The sides are held shut by a strip of rattan or rope (K.B. - *kelepat*), stretched from one side to the other; this then runs up the side, before passing back across again. It is this strip that when loosened allows the 'front door' to lean outwards, to accommodate larger loads.

The straps - *ay* are tied with rattan to the frame at the top of each side strut. The bottom loops of the *ay* have a piece of rattan tied between them, passing through the weave of the base to secure them.

The basic weave of this type of *keba* is always made as described, although larger *keba* often use more than one row of the figure-of-eight design; this is



woven through the previous row to join it securely. There are also variations in the design for producing a strong edge, using very pliable rattan, but the style outlined above is the most used.

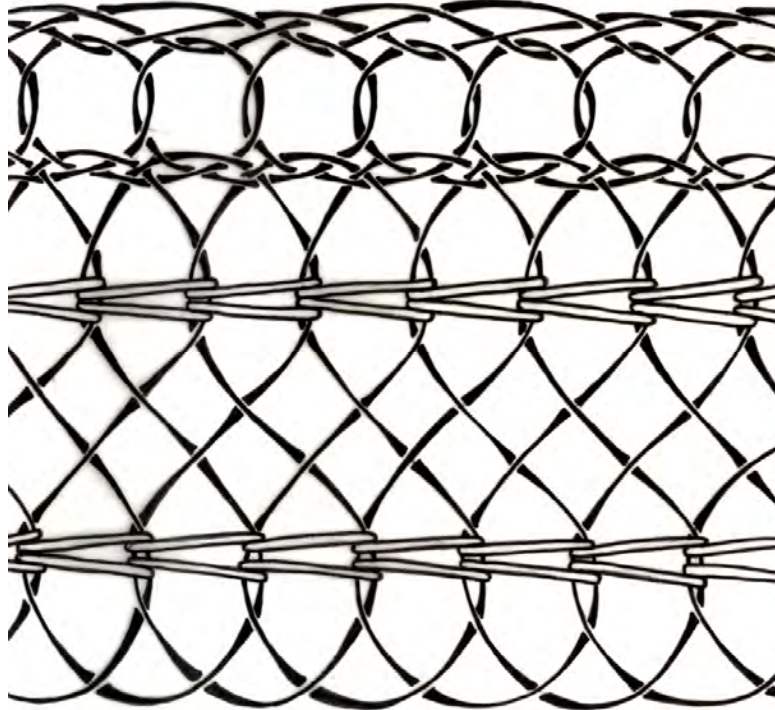


Fig.8.13. Addition of further strengthening strands.

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The Kelabit call this style of *keba*, *ayit* in Lg. Lellang and Bario areas and also Upper Baram Penan *kivah* are again made in this way. The Penan, though, use a different edge detail.



Fig.8.14. Penan edge detail.

The one Kelabit family living at Lg. Kepang had an *ayit* approximately 150 cms in length, made from 8 mm rattan by Tama Kapong Arun. This would have easily been big enough to carry a fully grown male wild boar and I was told that it was made for this purpose by Tama Kapong Aran (pers. com. 2002). It is unusual to find an *ayit* of this size (see pl.8.10).



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Kejaman call this particular *keba* a *baletkan* and often produce a larger version, with thicker rattan of approximately 8 mm diameter. As already shown, it starts as a figure-of-eight weave, a second strand is then added around the edge by looping around each of the tops of the 'eight' and through itself. This is carried out along both edges (see fig.8.13).

The three strand edging is again applied around the entire edge. Where the figure-of-eights loop around each other a rattan strip is added to hold the crossover closed. This is carried out on both sides of the 'eight'. The back is woven as previously described, but no door is present, the opening being strung across from side to side.

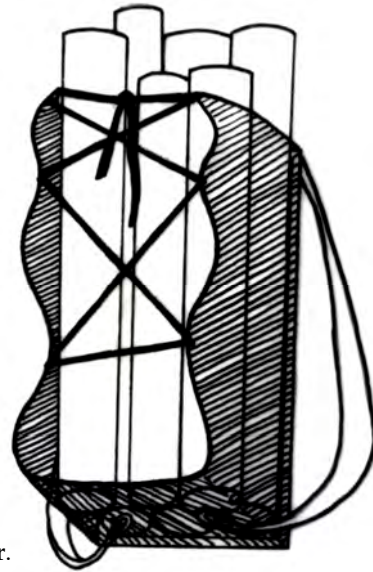


Fig.8.15. *Baletkan* without a door.

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The Lun Bawang *berkang* is also made of whole rattan, but, in a frame (see fig.8.18.) to keep the sides level. The weave is far more complex than other *keba*, with several strands worked in to the rim around the entire perimeter. The weave is folded in to a U shape and the back attached. The back is often produced from a plank of wood, which has holes drilled at even distances up the two long sides and along one of the short sides. The woven U is then stitched to this through the holes.

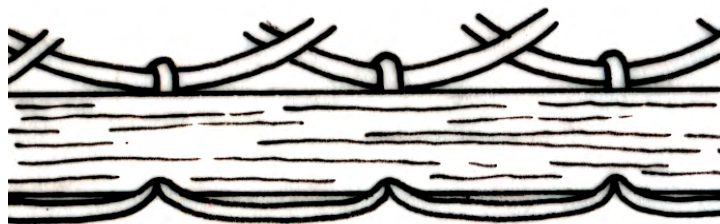


Fig.8.16. A wooden back with the sides stitched into place.

The door is formed from a second rattan rectangle, big enough to not only fill the front panel, but also to continue in at the base until it reaches the wooden back. It is attached to the base with ties, including one at the front. The bottom section of the door forms an inner secondary base.

Loops - *lalid*, are positioned up the sides on the front of the *berkang*, so that it can be strung to keep the door in place when loaded. Others *lalid* are positioned at the back for the attachment of straps - *tengelai*. These *tengelai* are usually made of barkcloth, but any fabric can be used.

The smallest *berkang* are 75 cms in length, but can be much bigger as they are used to carry all types of loads from firewood to wild boar. Like the *tayen*, a mat can be placed inside them, to accommodate even larger loads. Litad Selutan (pers. com. 2004) says that they are exclusively made by men and are given to a bride's family at weddings.

Citing the *bekang* as an example, Litad continued to say that she is very worried that the knowledge of production for traditional objects is disappearing rapidly; according to her only one elderly man - Balang is now producing this type of carrying basket, he works in the Ba' Kalalan area.<sup>20</sup> Litad did not know definitely whether Balang, a Lun Bawang, is in fact from Sarawak or whether he comes from across the border in Kalimantan, bringing his work with him for sale.

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Lg. Belaong produce *keba* in almost the same way as the Lun Bawang, using a frame (see fig.8.18.). But they differ in as much as wood is not used for the back instead the technique of weaving, used by the Kenyah Badeng, is used. The back weave frequently has secondary weave in its lower half, almost closing the holes, giving extra strength to this area. The door is again made in the same way as those of the Lun Bawang.

<sup>20</sup> Balang sends his produce to Litad when transport is available, the drive taking many hours. Occasionally items can be sent by twin otter aeroplane, but this is very dependent on baggage space as there is only one flight per day.

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Saloma Jalong from Lg. Main says that some Penan *kivah* are made by women, but because a lot of strength is needed it is generally made by the men. It is used by both sexes to carry anything that fits.

(ii) *Keba Anyam* - K.B., U.B.K. - *berkang anyam*, Kl. - *ayit wei pendwei*, P.- *selabit*, L.B. - *bakang*.

This second type of *keba* is produced by both sexes. It is made on a frame called a *luan* by the Kenyah Badeng. The frame is made from a woody material that I was not able to identify, called by them - *empong*. The *empong* has to be slightly longer than the length required to weave the two sides and base. The end supports are notched and fitted into slots in the sides (see fig.8.17.), along with a central bar to give added strength to the frame. The frame is bound around the edge with rattan, to hold all the elements firmly in place.

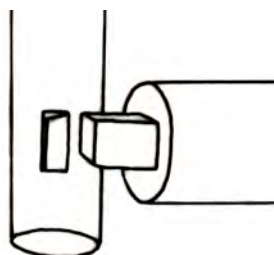


Fig.8.17. Notches for the frame.

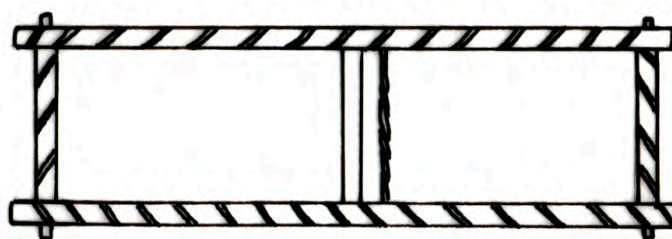


Fig.8.18. Frame shape with a cross support.

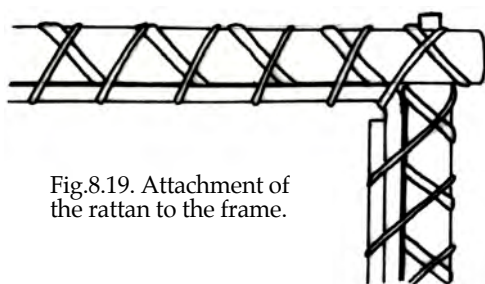


Fig.8.19. Attachment of the rattan to the frame.

A length of whole rattan is attached by binding it to the inside of this frame, this overlaps at one end, to give strength to the area where the two ends meet.

Strips of rattan are tightly tied, across both of the short ends of the *luan*, with their centre points lying along the centre of the *luan*. These form passive strands in the weave. The number of strands depends on the width of the *keba*.

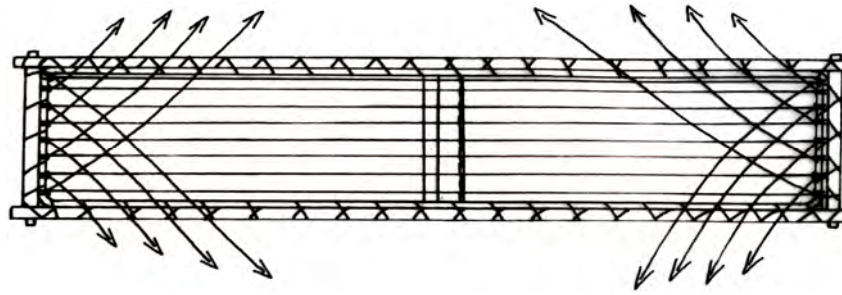


Fig.8.20. Weaving strands in the frame.

The loose ends are woven to form a hexagonal design. When the strips meet in the centre they continue to be woven, forming a tighter diamond shape weave as the weave from the opposite end is incorporated. This makes the lower part of the *keba* far stronger.

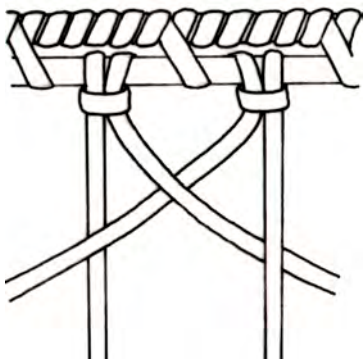


Fig.8.21. Start of the hexagonal weave.

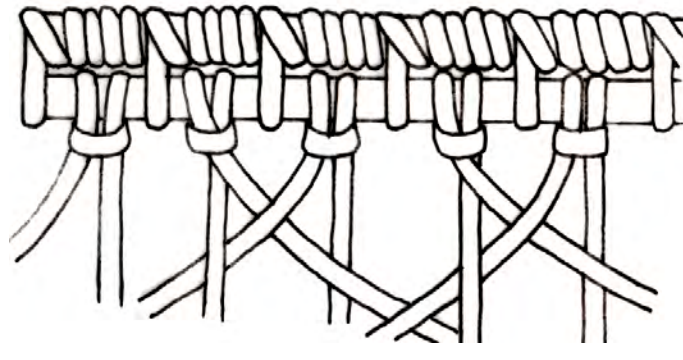


Fig.8.22. Showing several start attachments and the second weave step.

When the weaving is complete, the binding is cut and the weave removed from the frame. The weave is bent to shape and a frame for the back is made and attached in the same way as for the *keba kaleng*. The *paman* (K.B. - door) is also made in the the *luan*, but uses only enough of the frame for the height of one of the sides. It is woven in the same way as all the other parts.

At this point of weave completion, a second strand of whole rattan is placed all the way round the edges of both the *paman* and the main body of the *keba*. The strand is held to the original strip by ties of rattan wound around the two whole rattans, between the knots of the woven faces, this provides greater

sturdiness to this carrying basket. The *paman* is held in place at the base of the main body of the *keba* using rattan ties.

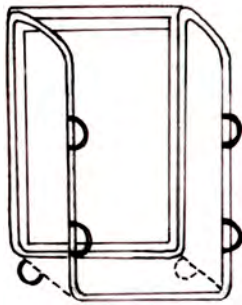


Fig.8.23. *Kisew* positions.

The straps are attached to woven *kisew*, attached to the base of the *keba* and tied to the sides of the frame at the top. *Kisew* are also employed on the edge of the *keba*, providing a means of strapping the *paman* closed, using a *kelepat*, whilst still allowing for the expansion of the *keba*, so that larger loads can be carried.

There is not much variation in this type of *keba* within the Asap Kenyah community. Where variation exists, it is found either in the number of strands, the closeness of the weave or the dimensions of the panels. The Penan Talun version is woven in the same way, with the exception of the edge, where two thin strips of rattan are laid on and another strip of rattan wound around them, holding them in place as seen in the *keba kaleng* (see fig.8.14.), and makes the edge much stronger. Sometimes a back panel will incorporate a decorative weave, but this is rare, where it does occur, it is carried out in black and natural rattan.

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The Punan Bah *kiyang* is woven in a frame like the *keba* from the same area, working from one side to the other and back again forming a 1/1 plaid weave. The difference here is that no door is utilized, much like the Kejaman *baletkan*, but is tied across instead to keep the load in place.

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The *wei pendwei* of the Kelabit has its sides made in the same way as a *keba anyam*. The back, though, is produced from a rectangular frame of heavier rattan than that used for the perimeter of the sides.

The entire frame is completely filled with a 2/2 plain weave, which goes round the frame sides and comes back, under itself, to continue the next line of the

weave. This weave carries right over the top of the frame.

The top corners of the frame have an extra area of protective weave to prevent wear, built up into a rhombic shape, attached at its top and bottom, around the rattan of the frame, and is replaced if necessary (see pl.8.6. & 8.18.).

On the back, at the bottom, a piece of wood is attached which runs right across the frame, to protect the wearer's lower back. The wood is held in place with rattan ties which are recessed into the wood, anything standing proud would cause rubbing to the user's back.

The frame is attached to the woven rectangle of the base and sides by stringing through every third or fourth hole of the side weave, then through the weave of the back, the rattan string then passes along the inside of the *ayit*, to the next attachment position.

Strap attachment loops are found on the base at its rear corners, the string between straps passing through these loops. The other loops for the tops of the straps are found on the side edges of the back.

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*Keba* and *ayit* are sometimes made for children to use practically: Rose Gerau in Bario, had an *ayit* made for her by her grandfather (see pl.8.6) to carry her belongings to school in Bario, a five day walk from her home in Lg. Ramadhu (pers. com. 2003). Her *ayit* was made from split rattan, with black and natural colours on its back. Rose Gerau, now an adult, keeps it as a memento of him. In the Bario area other small baskets of this type are made as toys for children to partake in imitative play. All the details of these *ayit* (pl 4.18.) remain intact and also often include a small sleeping mat for a doll or to increase the carrying capacity. The height of these baskets tends to be around 40 cms, suitable for a child of about 4 - 6 years of age.

## Animal Carriers

### *Pig Carriers*

Although not an object as such, it is integral to the hunting process and as this carrier is produced from plant material it deserves acknowledgement.

When an animal has been killed and is too large to fit into a *keba* a long section of rattan is cut and the thorns stripped from its outer surface. The resultant fibre is used to tie the dead animal onto the back of the hunter so that he can easily carry his kill home.

### *Carrying Cages*

This cage was not in evidence in any of the communities that I visited, but was seen in a 1962 photograph, taken at Pa' Bungan, a Kelabit village in the Bario Highlands (see pl.4.20), holding a *terutong* (Kl. - porcupine). The cage had been produced from a single joint of large bamboo, split into approximately 16 slats from the open end, to just above the sealed joint. The slats were splayed and pieces of rattan woven in and out of the slats at several points. The sealed joint was bound for extra strength. The opening had a door attached, made of the weave seen on *blanyat* bases. There was also a strap for carrying the cage.

Although I have not seen an example of this cage, it would be wrong to assume that it is no longer made. The simple manufacture would mean that it could be quickly manufactured, when and where necessary, especially when little time is available. Although *belalung la'al* are now the common mode of chicken carrier, it seems to me this cage could still be found during hunting and on farms.

### *Storage*

All these items are kept in rice huts, back verandas, or kitchens hung from the rafters, keeping them dry to preventing rotting.

## THE RIVER

All the communities I visited are situated on river banks. The river is used in many ways: to bathe, to do laundry, as a route for travelling, and for fishing. Some longhouses now have piped water, but this still comes from the river. In times when there is low water in the main river and no piped water is available, people will travel to the smaller streams and pools to bathe and do their washing. Lg. Main has a small hydroelectric scheme on their river providing lighting for the whole village, supplementing the solar electricity also generated.

### Fishing

Due to the close proximity of Orang Ulu villages to rivers, fish form a major part of the diet, supplying a large proportion of the peoples' protein intake. The Penan, where still nomadic, will always camp near to fresh water. Longhouse people also tend to have a number of man made fish ponds close by their homes and at their farms. Settled Penan are starting to build fish ponds and there is one at Lg. Main.

The three main methods of catching fish are, (i) using the *bubu* - a fish trap, (ii) by netting, or (iii) poisoning with a plant such as *tuba*. All of the various types of fishing are still carried out today, in much the same way as traditionally, by both the young and the old. Men and women fish, but each uses different equipment and the catch varies. The catch is generally for the consumption of their own family, excess fish are smoked or distributed amongst neighbours. An exception is when *tuba* is used, then the whole village is involved. Another exception is fishermen living close to a market, such as many Berawan, who sell their fish.

'The most common device is the cast-net, which has a diameter of about five metres with the central part in a cone -shape to which a strong cord is attached;



the net is weighted at its edges. It is thrown out over the water in shallows or in a pool, and the net sinks, trapping the fish beneath. Sometimes a broad flat net is strung out across a small stream; the fish are then driven downstream into it. Women often use simple scoop-nets, either long or short-handled. Rod and line is also used with bait. There is a large variety of fish traps made from bamboo or rattan. Men often use fish-spears and harpoons; for night-time fishing special lamps to attract the fish are sometimes employed. The most well-known Bornean method of catching fish is the use of poisonous roots of *tuba*. Men construct a dam across a stream; then everyone - men, women and children - gathers a distance upstream, pounds up the roots to release the poisonous juices into the water; the stunned and poisoned fish are then caught at the barrier further downstream.' (King 1993: 185/6)

The use of *tuba* is often reason for a large picnic at the fishing site for the whole village and is the cause of great expectation and jollity. A more modern method now sometimes used, is to introduce electrical current into the water from a car battery, thereby electrocuting the fish. The fish then float dead to the surface of the water where they can be easily collected. Both methods are used at Lg. Lellang.

**Fish traps** (Kj. - *buwow*, K.B., Kl. - *bubu*, L.B. - *bubuh*)

The *bubu* is a fish trap used in the river by many of the different communities, in Sarawak the rest of Malaysia and globally. Although the shape varies from community to community, the basic design remains the same. The trap works by allowing the fish to swim in through a cone shaped entrance, but once inside the hole at the top of the cone is too narrow for the fish to escape. The top of the cone is made up of spikes, which dissuade the fish from attempting escape. The *bubu* lies on its side, on the river bed, and often has a fence running up to it, to encourage the fish to swim in the direction of the trap.

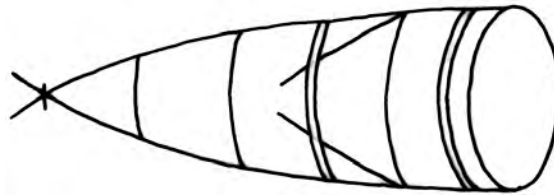


Fig.8.24. The general shape of a *bubu*.

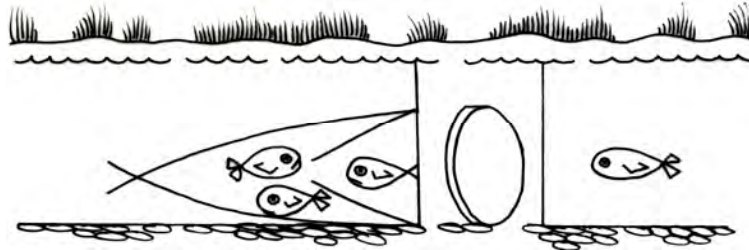


Fig.8.25. Position of a *bubu* in a river.

‘the fish trap is a long cylindrical basket with a hinged gate at one end and a narrow, tapered opening at the other. This mouth is surrounded by inward pointing canes with sharpened ends; a fish can ease its long slippery body in, but it is unlikely to find its way out. As fish traps are usually set after dark, it is mostly men and big boys who handle them.’ (Munan 1989: 51). In most communities, I also found that it is the men of the family who produce this type of trap as well as using them. Set over night and the fish removed in the morning.

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The *bubu* made by the Kenyah Badeng is produced from a type of wood known to them as *basung* or *talang da'a*. This is split into long thin slats, which are tied together in a row, using two strands of rattan, one strand passing over the *basung* and the other under it, they are then twisted round each other before passing on to the next slat, where the same procedure is carried out again.



Fig.8.26. Joining of the slats.

When enough slats are joined to form the mouth of the *bubu* the two ends are brought round to meet each other and tied together using the same twist carried through the overlap, this is continued until a few slats have a double length of knotting, to ensure a strong join.

Slightly further up the *bubu*, a second row of ties is positioned, narrowing the circumference slightly. The number of these rows of ties depends on the length of the *bubu* being produced, but the Badeng usually use seven rows, each set of ties narrowing the shape further. The average length of a *bubu* is just over a metre. At the very top of the *bubu* the slats are pulled together to close the trap completely with a tie of rattan or string, which is wrapped round several times and pulled tight.

To strengthen the *bubu*, rattan rings are positioned inside, level with the ties, not every set of ties needs a ring for the necessary strength to be gained. They are held in place by lashing them across the original ties with another strip of rattan.

A second set of *basung* or *talang da'a* slats, far shorter than the first and sharpened at one end, are then tied together, using two sets of ties, in the same way as before. These are pulled into a much shallower cone, with the points positioned at the narrowest end. The shape is held by a further strip of rattan wound between the the two sets of ties. A small entrance is left at the top, to allow for the size of a fish.

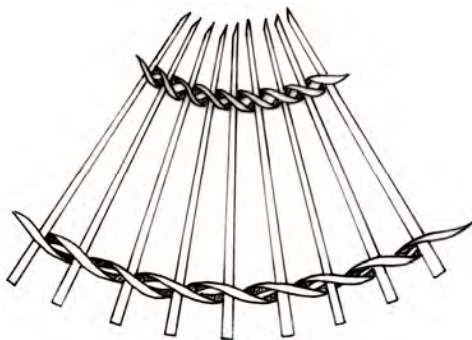


Fig. 8.27. Slats for the inner cone.



Fig.8.28. Position of the *ngaga* strand.

This small cone (K.B. - *ngaga*) is placed inside the larger cone level with the second set of ties. It is held in place by a strip of rattan, woven over the bottom ties on the inner cone and the second ties on the outer, larger cone, completing the *bubu*.

The trap is opened by loosening the tie at the very end, allowing the fish to be removed. In other examples of the *bubu* a trap door is positioned at this end allowing easy access to the fish. The *buwuw* fish traps of the Kejaman are made in a very similar manner, but with a woven trap door exit. This weave is *ngeratung* in style (see fig.7.2).

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The fish trap of the Kelabit is produced from large laths of bamboo complete with the skin, tied together using rattan in the manner of the Badeng *bubu*, but working from the top downwards. After a second set of rattan ties, the bamboo laths are split into three, these are separated from each other to allow the ties to continue, the spacing is kept regular, whilst allowing the object to flair. At least one round of ties down from the split, a rattan ring is introduced to the inside in a similar manner to that found in the *bubu* of the Kenyah Badeng, this adds strength to the shape.

About three quarters of the way along the length of the *bubu*, the first cone of spikes is introduced, they are fairly widely spaced, with a narrower spike attached by ties on the ends to give a really sharp point. A second cone of spikes is attached to the base edge, but does not include the extra end spikes.

A wooden lid is fitted to the top end of the trap over the hole, allowing for the removal of the fish, a piece of rattan is tied across it to keep it in place. Also a carrying handle of a single piece of rattan is often attached to one of the rattan ties.

Lawai Tu'uh a Kelabit at Lg. Lellang says that most *bubu* are now bought either

from the Iban in Marudi or from Bario, where Kelabit from the Indonesian side of the boarder come to trade. He says that there are now very few people left who can still make the traditional Kelabit *bubu* (pers. com. 2004).

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The *bubuh* of the Lun Bawang is far more bell shaped in aspect than the two I have already described. It is produced from bamboo with rattan ties. These *bubuh* are far smaller, approximately 40 centimetres in height, and are used to catch little fish and crabs.

The bamboo strips used are far finer than those on the Kelabit traps but again include the skin, positioned to the outside. The bamboo is joined together in a line at the top. It is then curved round to form a circle with a rattan ring placed over it, tied in place, to hold the shape. The bamboo strips are split in two, lengthways, up to this rattan ring, spread apart and a double sets of the ties (see in fig.8.26). put in between them, to hold their position. Further down the slats, around the two thirds point, more rows of double ties and rattan rings are added to make the structure rigid.

A cone of bamboo is produced in almost the same manner as the outer structure, using the same number of bamboo stays, but with the skin of the bamboo to the inside. Although the bamboo is split in the same way, there is one difference, as the first rattan ring is found halfway down the cone. Its outer diameter is larger than that of the main body of the trap at present.

The cone is pushed up, inside the outer shell of the trap so that the bases of both are level, the inner cone causing the base to flair. The two lowest sets of ties are positioned on the remaining third of the outer structure. They are passed through both the outer trap, inner cone and a rattan ring, binding all three elements together.

A second rattan ring, the same size as the top opening, is made and strung with

rattan using *ngeratung* (K.B. fig.7.2) weaving. This ring is tied in place at both sides allowing it to be opened to extract the fish and other small creatures.

Although these small *bubuh* are used by both men and women to catch fish and crustaceans, I was unable to discover who made these traps.

**Nets** K.B. - *umpong*, Kl.- *eyap*, L.B. - *rabat*.

Netting, (with the exception of the *lawwa*), is a task carried out by men. Men also attend to the up keep of nets and are predominantly the users. The Penan are an exception to this, according to Saloma Jalong in Lg. Main, as it is the person who has free time who fishes, rather than it being the preserve of one sex (pers. com. 2005).

I found that nets fall into three main categories: the *lawwa* (K.B.), a scoop net, used by the women in streams; the *tejala*, (K.B.) a circular cast net, used by the men in the river or from a boat and a long net *pokat* (K.B.). The *pokat* varies in length dependent on the owners requirements, but are rarely more than 100 ft, this net is left suspended across a river. Almost all families will keep at least one of these types of net, if not all of them.

Traditionally the netting would have been made from *talun* (K.B.), a fibre found in the wood of certain trees or *lempak* (K.B.), a leaf fibre. These fibres were made into a thread by rolling the two fibres onto the leg. When the fibres have taken up a tight twist, the two are allowed to come together, and twist around each other, forming a 'ply'. Nylon line has now taken over from plant fibres, as it is strong, cheap, requires no preparation and is nearly invisible in the water.

Netting is produced using two shuttles (K.B. - *sang'ga*, Kl. -*ewan*, L.B. - *etan*), onto which nylon, or fibre is wound. Initially equal sized loops of thread are attached to a larger cord or rope, until the a length has been built up.



Fig.8.29. A shuttle.

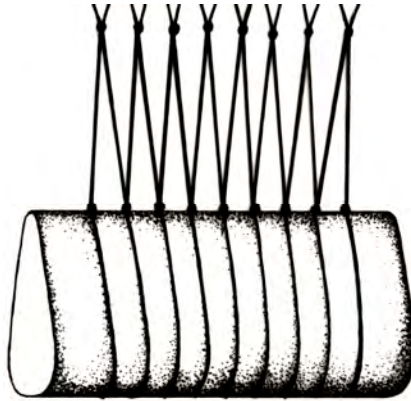


Fig.8.30. A belidah.

The net loops are kept at an equal size using a *belidah* - K.B. (Kl. - *a'ad*), a length of wood cut to the required size, with an elongated tear drop profile.

The nylon passes round the *belidah* each time a loop is formed, thus making the size uniform.

The knot is produced by passing the *sang'ga* back and forth through the loop found immediately above in the previous row, as shown in the diagram. At the beginning of a row the knot is tied around the cord. It is pulled tight, before passing around the *belidah* again to form the next loop.

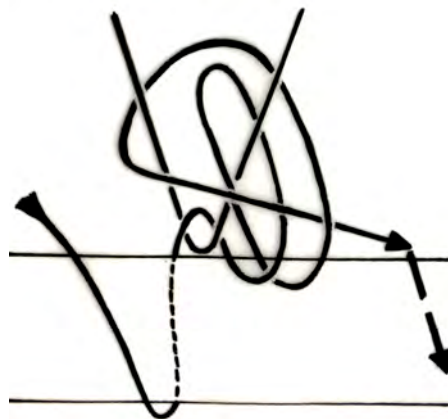


Fig.8.31. Knot progression.

At the end of every second row, after tying the two threads together, the other *sang'ga* takes over, thus keeping both in use, forming the *umpong*. Where the netting is to be used as a net rather than in a *law*, a chain is attached to the bottom edge, to give it weight. The nylon passing through every third link, to keep it evenly spaced and weighted.

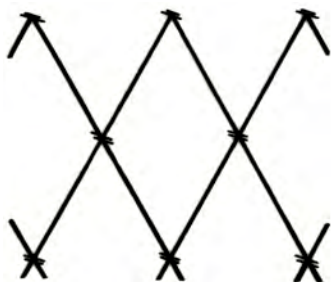


Fig.8.32. Net pattern.

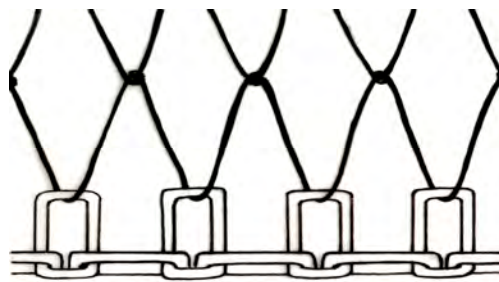


Fig.8.33. Net with chain weights.

*Cast nets* K.B. -*tejala*, Kl. - *pedala*

'This is a circular net usually 4 - 6 m in diameter with lead weights around the circumference. A rope is attached to the centre, the end of which is held in the hand as the net is cast. When well cast the net spreads out fully and the weighted circumference hits the water simultaneously; the weights cause the circumference to sink quickly and then gradually come together enclosing whatever it is that might be caught. The net is then drawn up by the rope held in the hand.

A favourite place for casting is the shallow, rocky parts of streams where the water (50 - 75 cm deep) is fairly rapid flowing. Here casting has to be done on foot, and every so often the caster has to dive into the water to guide the net over stones and boulders. Just as frequently, casting is done while standing in the bow of a canoe. This is usually in deeper water, which is less swift, in less rocky parts of the river.' (Chin 1985: 106/7)

To produce this circular shape, when a row is complete the direction is reversed and the next line worked from the back. At the end of a row the last loop is joined to the beginning before the next row is added. Extra loops are added into the netting on approximately every fifth row, equally spaced around the circumference. They have to be placed in line with each other through the rows to keep the shape exact, otherwise when it is thrown it will not spread out evenly.

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The only difference I saw between the cast net described by Chin, and that of the Badeng is that in all the Badeng examples, a chain is used is used to weight the outer edge, rather than lead. Other groups, including the Kejaman, sometimes still use the traditional method of weighting the outer edge with stones.

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The Kelabit occasionally use a double net, made in two layers of different size netting, giving them more variety in catch size. They again weight their nets



around the bottom edge using a chain.

Lawai from Lg. Lellang says that a 5 m radius cast net costs approximately RM 200 (approx. £33) to buy, therefore, economically it is better to make these, as the time needed for manufacture is much shorter than for a gill net. (pers. com. 2004).

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With the exception of the Penan almost every family I encountered during my research owned a cast net, for the provision of food for their family. Using them whilst standing in the shallows, from the bank or from boats.

*Gill nets* K.B., Kl. - *pokat*.

A gill net is a long rectangular net of varying length depending on the size of river being fished and the owners personal preference. For the Kenyah Badeng, it is never found to be over 100 feet in length and is usually much shorter (pers. com. Asang Lawai 2002). Lawai Tu'uh from Lg. Lellang (pers. com. 2003) says that these long rectangular drift nets vary in length from 15 to over 100 m. Due to the time taken for a net of this type to be hand produced, they are now usually bought. During my visits to various Orang Ulu communities, I never saw anyone producing gill nets, although, the expertise was obviously as many men were producing cast nets.

'When in use the net is suspended in the river. The top edge kept at the surface by floats..... The lower edge is kept down by lead weights....' (Chin 1985: 107/8). Again Kenyah Badeng and others prefer the use of chain to lead weights. Lawai from Lg. Lellang states that the floats and weights are spread evenly approximately every 40 cm, as I could see from the many nets he keeps at his house and on the nearby river bank. Lawai is one maker who sells some of his completed nets to supplement his income from the airport and school.

'...The rope extending from the upper edge is used to secure the net to a

branch on the river bank (if the bank is without trees, a pole can be driven into the ground or the rope can be tied to a boulder). The rope extending from the lower edge at the opposite end is tied to a rock. This keeps the net from being washed about by the currents.

Besides the estuaries of small tributaries, gill nets are often set in pools or other parts of the river where there is very little current. During dry periods when the river is low (consequently the volume of water is greatly reduced) fishing with gill nets is intensified. During these periods the chance of catching fish increases; besides there is less danger to the nets by drift wood or changing levels of water.' (Chin 1985: 107/8)

I saw far less gill net use, may be because these nets are not set close to the villages I visited, but were further down river and not visible to me. I did however, see some drying and being repaired so they are definitely still in use. This lack of gill nets use may also be because their manufacture is very labour intensive and they are expensive to buy. Gill nets because of their length are also at greater risk of damage than other forms of net. It also seems that at present enough fish are caught using the other methods available to the Orang Ulu.

**Fish scoops** K.B. - *lawa* Kj. - *sarap*, L.B. - *eyep*

The *lawa* of the Kenyah Badeng is used in small streams to catch little fish, crabs and prawns (also see Janowski 2003:39). It is produced, by the women for their own personal use, from an oval rattan frame, from 70 cm up to about 120 cm, they can be even bigger if wished. A wooden handle is attached across one end by binding, it reaches from one side of the *lawa* to the other.

The net is produced in the same way as the cast net - *pejala*. Starting with only ten loops in the centre, closely gathered, it then spreads with the precise and regular additions of extra loops. The hole size in the netting is far smaller than

that of the *pejala*, at around 1 cm<sup>2</sup>. The net mouth is attached around the edge of the rattan frame away from the handle. The centre, start point of the net is then attached to the frame, behind the handle, with a piece of string, forming a scoop shape.

The edge furthest from the handle is dipped into the water in a scooping motion, allowing small fish and crustaceans to gather at the back of the net before being put into a basket for carrying them home.

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Litad Selutan from the Lun Bawang says that the *eyep*, their scoop, is dying out and only older people are making it now, as it is easier to buy and use a plastic laundry basket with small holes to scoop up small fish and crabs (pers. com. 2004).

### **Fish baskets**

The Punan Bah women use open weave baskets to catch little fish and a variety of crustaceans from small streams and the river edge. The first type, *penari*, is made in exactly the same manner as the Badeng *keratang*, but without the leg and stands at only 20 cms in height. The second, *siak*, is very similar to this in weave, but has only two corners at the base and the top finishing in an oval rattan ring. The third type, *jarung*, is a shallow bowl with a very wide circular mouth and a dome shaped section. It is made from round rattan in the same way as the Badeng *bakun* (see chapter 10), with one direction of weave spiralling in and out around a spoke centre.

### **Fishing poles/rods**

All the examples of fishing rods I found under the house of Tama Pun Mengga at Lg. Lellang and those of the boys at Lg. Geng were made of a length of rattan. The line was originally produced from plant fibre, but is now of nylon

fishing line. The hooks are made from the thorns of a plant called *biré* (*Salacca vermicularis*) by the Kelabit, these thorns grow out of the stem in an upward direction.

### **Berawan Fishing**

The Berawan People, who are closely associated with the Kenyah; are particularly adept at fishing, many living in the area of Loagan Bunut, the only freshwater lake in Borneo, and the Tinjar river:

‘Loagan Bunut is an extraordinary lake with a water level that fluctuates throughout the year. This happens in response to fluctuations in the water levels of the Tinjar and Baram rivers with which the lake is connected via a small channel.... The periods of low water usually last for two to five weeks. Fish and bird populations also fluctuate as a result of this unique situation. When the dry periods are at their peak, Loagan Bunut can become a huge expanse of dry cracked mud.... Insects lay their eggs in mud cracks and caterpillars, emerging from the eggs feed on the grass. When the rains resume and the lake starts to fill up, the fish feed on the caterpillars - all this being part of a unique food chain.’ (Hazebroek & Abang Kashim 2001:177).

Thus this area is very fertile in fish life, and fishing a major part of Berawan life. I saw many floating fishing houses on the lake, and was told that they were so that the fishermen can spend either the night, or many days with their family, watching their fishing equipment (pers. com. Meran Surang 2003). He said that they take it in turns to watch the nets at night from small boats, using lanterns to deter crocodiles from the area, stopping them from snagging the nets and causing large amounts of damage. The Berawan have developed types of fishing not known elsewhere in Sarawak, such as the *selambau*.

### ***The Selambau - B.***

*Selambau* are seen on the small tributaries running between the Baram and Tinjar rivers and Loagan Bunut lake. They are large nets strung onto a triangular frame. This frame can be lowered into the water to catch fish and then raised by means of a hinged mechanism, attached to a floating platform. When raised any fish in the net fall to the bottom edge and can be scooped out into a *kerungan* for keeping.

The frame is made from long wooden poles bound together, to hold them in shape, the net is then fixed to all three sides. If the net is not in use, it is tied up out of the water and allowed to dry. *Selambau* are often found in conjunction with floating fishing houses.

### ***Fish keepers B. - kerungan, K.B. -tebung, Kl. - belalung luang.***

The Berawan have elaborate large crates which they suspend just under the surface of the water. Fish are kept alive and therefore, remain fresh, until they can be transported to their destination, either the local village, or for sale several days river journey away in Marudi or Miri.

The crates are produced from laths of bamboo, tied together in rectangular section with a trap door in the top. They are about 2 ms long. Along the top edge of the fish keeper long bamboo poles are attached, which act as floats. Several of these fish keepers can be tied together for transportation.

I never saw fish keepers belonging to any of the other groups, but both the Kelabit and Kenyah Badeng assured me without showing me, that they do use them. Unlike the Berawan, neither of these groups routinely take fish to market, so I assume that their fish keepers would only be large enough to keep fish fresh for the family.

## *Storage*

Fishing equipment is stored in various places, nets are hung to dry on river banks then they are transferred to the village to be kept under the house, hanging from rafters; or on the verandas, in either the communal space in front of the rooms hanging over the edge of the rail or on the private back veranda. Previously nets were covered in a protective coating of *kadeng* or *ubur*, but now they are made of nylon and so moisture damage is not a problem. Fish traps often suffer damage from insects, rodents and damp and so they are stored in the kitchen above the fire, where the smoke prevents damage.

## **Boating**

River travel features very heavily as a mode of transportation and in many cases it is the only way to get from village to village. Boats also gives access to field and garden sites along the river banks, and are a means to carry out various fishing activities. Almost all families will have at least one boat (K.B. *alut* Kl. & L.B. *alud*), often now complete with an outboard engine. The boats and boating equipment are made in the village either by individuals or by a local expert. The production of these items is always the man's domain.<sup>21</sup>

**Paddles** K.B., Kl., P. - *besai* Kj. - *pled'*, L.B. - *bué*.

Paddles are used where no outboard motor is available, to help with power, steering and stability in rough water or where the water is too shallow to use an outboard. Both men and women paddle boats, but an engine is more often seen in use by a man. In the past all propulsion was carried out by paddle.

Paddles are made by the men from single pieces of Bilian, as this floats if it falls overboard. The different types of Bilian vary in density and those with the

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<sup>21</sup> Information on the manufacturing techniques, materials and tools used in boat building can be found in Nicolaisen & Damgård-Sørensen - 1991 - Building a Longboat - An Essay on the Culture & History of a Bornean People.

higher density (and thus greater weight) are preferred as they last longer (pers. com. Lawai Tu'uh 2003).

The shape is produced by carving using a parang. A horizontal handle is produced at the top of a long shaft, with a flat blade hewn to shape on the other end. The length depends on the height of the user, approximately the height of the armpit.

The shape of the paddles blade changes to some extent between the communities, a Badeng mans' *besai* being more elliptical, whereas the women's' is rectilinear. The shape remains constant for men and women within the Kelabit community. They are often decorated with carving and historically were often given by a man to his sweetheart.

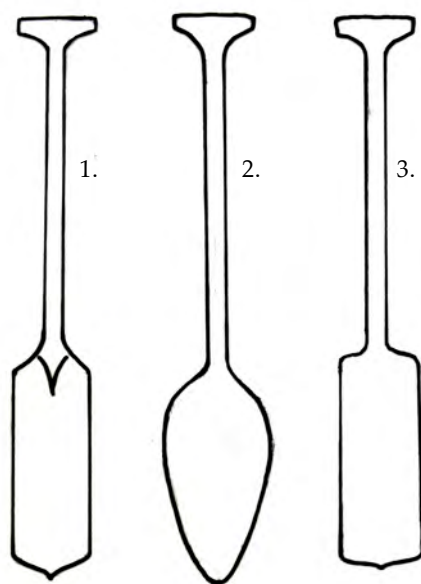


Fig.8.34.  
1. A Kenyah Badeng female paddle - *besai leto*.  
2. A Kenyah Badeng mans paddle - *besai laki*.  
3. A Kelabit paddle - *besai*.

These paddles are used by kneeling in the bottom of the boat, facing the direction of travel, the paddles are used on both sides of the boat, to steer as well as propel. The paddle is held with one hand on the shaft and the other on the cross strut at the top. If the boat is being paddled on the right side, the right-hand is positioned lower and vice versa on the other side. When steering through rapids the paddler often positions themselves in the prow, and will occasionally stand, while attempting to keep a low centre of gravity for balance. In smooth water boats are usually propelled from the rear if there is only a

single paddle in use. Traditional war boats used many paddles along the length of both sides to give maximum speed to the craft, these were frequently paddled standing.

**Punt Poles** Kl. - *terkan blued*. K.B., P., L.B. - *teken*.

Punt poles are used to fend the boat off sand bars, rocks and banks, to pole short distances across rivers and to help propel boats forward through rapids and strong currents. The poles are made from wood found on the hill sides, not the flat land, and called *semerah* by the Kelabit. This wood is chosen because of its strength and durability. These poles are smoked before use, in order to straighten them and to remove excess moisture thus making them lighter (pers. com. Tama Pun Mengga 2003.).

TYPE OF OBJECT		MADE BY		FAMILY USE		FOR SALE
Wood/Metal	Other Plant Materials	Male	Female	Male	Female	
Blowpipes & accessories		√		√		occ. locally
Spears		Specialist		√		√ locally
Traps	Traps	√		√		
	Heavy baskets (whole rattan)	√		√	occ.	
	Heavy baskets (split rattan)	√	√	√	occ.	
	Pig carriers	√		√		
	Carry cages	√	√	√	√	
Fish traps		√		√		
	Nets	√		√		√ locally
	Fish scoops		√		√	
	Fish keepers	√		√		
Paddles		√		√	√	
Punt poles		√		√	√	

Fig. 8.35. User/Maker table.



# Objects in the Domestic Sphere

## The Home

Settled Orang Ulu occupy villages in the rainforest close to a river. Built on stilts, their homes are traditionally formed from materials sourced locally.<sup>22</sup> Permanent housing is built from wood, whereas temporary buildings can incorporate bamboo and *atap* (a type of thatch produced from palm leaves) in their construction. This thatch is not only utilized in the manufacture of roofs, I saw it being used to form the walls of rice huts and is also used for the temporary dwellings made by the nomadic Penan. Traditionally many groups used *atap* or bilian tiles to form their roofs, this is being superseded by corrugated metal sheeting. Plywood is in evidence for ceilings and internal walls with a recent fashion for the use of formica type sheeting as a decorative element for the internal walls. All of these materials have to be brought from the town. I have come across men on footpaths in the forest carrying sheets of these materials on their shoulders. I have also found large domestic appliances, such as washing machines, in villages which have no transport access, these must also have been physically carried to their present sites.

Houses are built on stilts for a variety of reasons, as a form of defence against marauders, to keep both domestic and wild animals out or to stop flood water entering the home. Where villagers still occupy a longhouse this building has a covered veranda along its whole façade. This veranda is where people hold meetings, entertain visitors, play, practice dancing, mend nets, make a variety of objects, come together to chat and occasionally sleep. In some villages the veranda was the place where I would sit to learn their manufacturing skills. This

location meant that anyone passing by felt able to give me advice and find out

<sup>22</sup> For more information on traditional Orang Ulu housing see Winzeler R.L. Ed. Indigenous Architecture in Borneo: Traditional Patterns and Developments. 1998. Borneo Research Council Proceedings Series No.5.

what I was doing, it also gave my friends the opportunity to check their facts with others, if for instance they were unsure of the meaning of a design or the name of a technique.

Opening off the veranda are the dwelling rooms of each family. Depending on whether the house is single or double storied the first room entered is either the living room, or the living and sleeping room (double storied houses having bedrooms on the upper storey). Behind the living area is the kitchen with a central fire, rarely has this been completely replaced by a gas burner, although many houses now use both systems. Generally rice is cooked and water boiled on the fire as gas is both expensive and often difficult to obtain in the up river communities. At the rear of the house a small family veranda is positioned, it is used for drying laundry, washing up, and storage and is where the bathroom and toilet are found.

The room of the *Penghulu* (headman) is found in the centre of the longhouse and frequently the depth of the veranda is increased at this point to allow a greater number of people to congregate. Although each village will have some differences in their longhouses, i.e. Lg. Main has a central veranda with family rooms to both sides, they all follow this basic pattern.

The layout of individual family homes is very similar to that of the longhouse. Some families however prefer not to have a front veranda, choosing to have a communal room instead. Single family houses are usually found surrounding a traditional longhouse structure, in some cases extended families live in several small houses close together. It is unusual to see a village made up of only single dwelling houses, I came across a few examples of villages where the traditional longhouse is no longer used in Lun Bawang communities sited near to Lawas town.

The heavy building work is usually the remit of the men with women helping

with the lighter work, but on occasion women will also turn their hand to heavier tasks. When Darie Linchaw from Lg. Geng, Kenyah Badeng decided to rearrange the partition walls within her home at the longhouse her husband was working away in the logging camp. Darie did not know when her husband would return and as other adult male family members were staying at their farm, Darie chose to carry out the renovation work herself, with the aid of two of her sons, both under thirteen years of age at the time. This work included: selecting the trees, felling them, transporting them (by dragging) to the local sawmill, taking the planks home and building partition walls. Usually it is the task of the male to do this work, but the women have enough experience of the techniques required to complete most of the men's tasks and to be more than competent to carry them out when necessary. Saloma Jalong says that Penan men carry out the building work 'because they are physically stronger. Women used to help build houses when they were nomadic. Some women still help with the lighter work in house-building today' (pers. com. 2005).

The men work together to form the basic structure of the longhouse, individual families will then usually build the area of the house in which they reside. In Lg. Geng the men from one section of the house came together to build a staircase for their section of the longhouse. The interior of family's rooms is constructed by members of family. Single family dwellings are built by the family themselves, occasionally getting help from friends.

## The Kitchen

### Containers

*Trays* K.B., L.B.K. - *daya*, L.B. - *telem*, Kj. - *te'eun/tape arua*.

The *daya* is a shallow tray, with a square shaped base and round rim, which is found in varying sizes. They are used by the Kenyah Badeng to dry food such as various *kerepek*: tapioca, banana chips, and prawn crackers; they are also used as trays for carrying food and drinks. Traditionally, before the introduction of crockery, these trays were used as large plates from which the whole family would eat by sitting around them on the floor.

The *daya* are made by women in either bamboo or *tepo'* and are similar to the *tapan* in their construction. They are woven as a 2/2 plaid weave, with *mata*, producing a diamond shaped pattern to the weave (see fig.4.14). These *mata* are inserted as an aid to turning the corners without loss of the weave pattern. When a sufficient base size has been completed the corners are turned. They are formed at the apex of each point of the diamond pattern.

The sides of a *daya* are generally quite shallow, but the height is dependent on personal choice and the use for which the *daya* is to be put. Again the weave is of a 2/2 plaid.

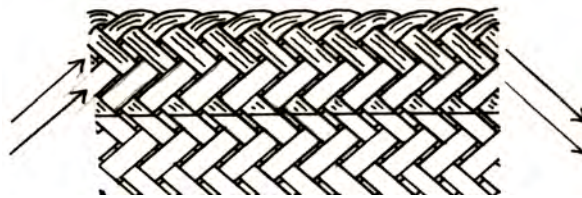


Fig.9.1. Turn for the rim of a *daya* made of *tepo'*.

If the *daya* is made from *tepo'*, the rim is turned by curving the strands around to their downward position, rather than folding them as with rattan. The curving prevents the fibres snapping and keeps the inner and outer surfaces of the *tepo'* in the same position, turning in this way also gives a scalloped effect to the edge.

Slightly down from this edge; through the first double weave, a piece of half rattan is inserted, forming a running stitch around the entire circumference. The actual rim is positioned above the running stitch and consists of an inner and outer ring of half rattan. The rings are tied into position, by piercing through the weave at short intervals and binding with thin rattan or plastic strip over the rattan rim and through the weave, before proceeding along the underside of the rim to the next position.

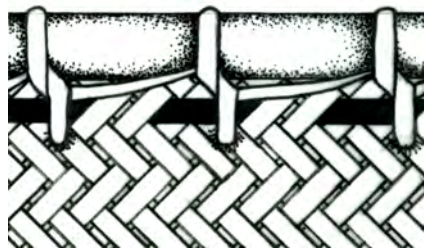


Fig.9.2. The edge of a *daya*.

As the corners are not notched, the rattan rim pulls the weave in a roughly circular shape. A hanging loop is attached to this edge, for easy storage.

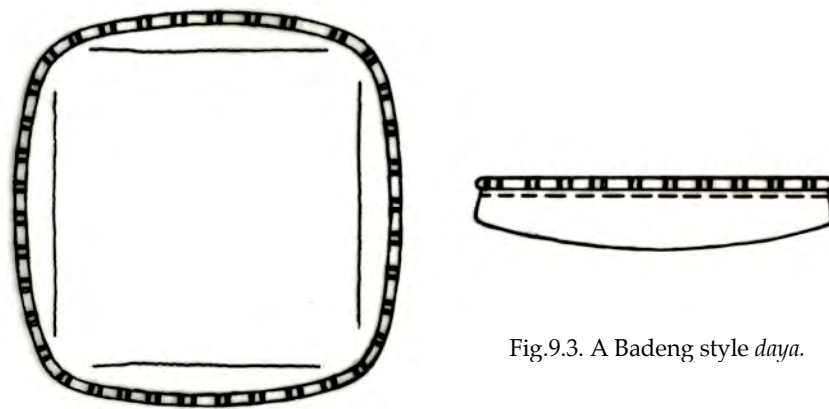


Fig.9.3. A Badeng style *daya*.

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The form of tray used by the Kejaman is called *te'eun* or *tape arua*. It is shaped to the form of a shallow rectangle, woven in the same way as the Kenyah Badeng *tapan*, it has four corners instead of two. It is produced in a 2/2 plaid weave, without the use of *mata* for the corners, this means that a single weave is found on the turn of the corner.

The edge binding is fitted in the same way as the *daya* of the Badeng, from 1.2 cm rattan, split in half along its length and fastened either side of the weave. No notches are cut into the corners and so a steep curve is formed.

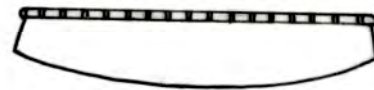
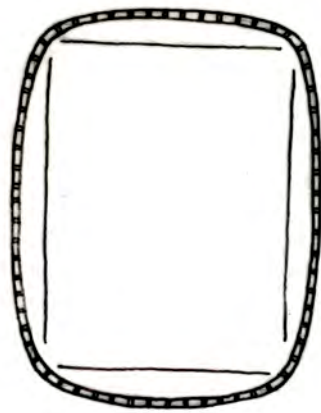


Fig.9. 4. A Kejaman *te'eun*.

**Square basins - P. not known.**

This basin is made by Lily, a Penan from Lg. Main, but she did not know its name and no one she asked could tell her what it is called either. It is usually made in more than one colour, or covered in a protective coating made from bark.

It is used like a tray and is usually made of rattan in a 1/4 plain weave. It is woven flat to the shape in fig.9.5 and then folded to shape.

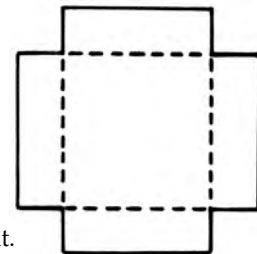


Fig.9.5. The shape of Lily's basin when flat.

The strands at the corner are passed across each other, whilst the strands closest to the base are folded upward by 90° and woven through the rest to the rim. The next strands on each side follow this pattern continuing until all the strands have been woven this way. This forms a triangular section of weave at each of the corners.

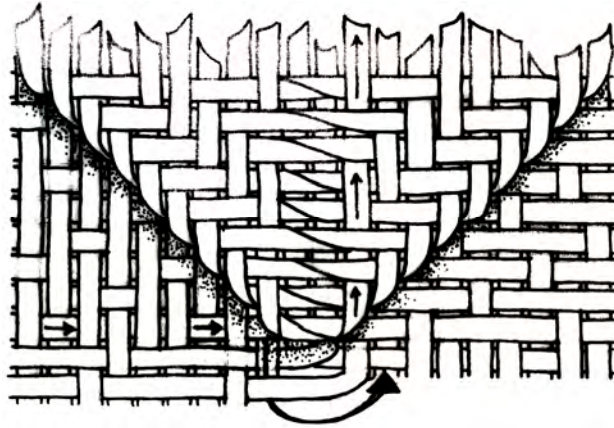


Fig.9.6. The corner weave and the strand positions.

A rattan rim is positioned over the top of this, around the edge, one half of the rattan to the inside, the other to the outside and a thin strip of rattan sitting on the top edge, covering all the raw edges and the cut of weave strands. It is tied in place with a rattan string. A *kermitan* (loop) is attached to this rim to hang the basket up when not in use.

#### *Woven bowls Kj - ti'in.*

This a small bowl, shaped basket, for general kitchen use, it rather resembles a Lahanan *elik* and is produced from rattan, with a strand width of approximately 6 mm. The weave is produced using a 2/2 plaid, which is loose, but even. When the rim is put in place the skin side of the rattan is placed to the inside of the bowl.

The rim is made from heavy rattan, approximately 12 mm diameter split in half lengthways and formed into two hoops. One half rattan hoop is placed on the inside, the other on the outside of the woven area, this pulls the weave into a concave form. The two hoops are stitched together through the weave using rattan or plastic strip.

*Cassava washing basket* K.B. - *bayut*

This basket is used to wash *talang* / *nyagga*, types of cassava. It is made by the women for personal or family use.

The cassava root is ground into flour prior to washing, this washing process continues until the water runs clear, the cassava is then spread out to dry. Once dry, it is ready to use in cooking. This basket size depends on how much flour is to be washed. This basket style is very similar to the Penan *gawang* (see chapter 10).

Woven, using fine rattan, in strips, it is built up using *mata* to a close 2/2 plaid weave. At the chosen size, the corners are turned and the sides built up. The sides are made quite high compared to the width of the base, to prevent loss of flour.

The basket is finished with a rim turned back on itself in both directions, passing over two strands and under two, before being woven back on themselves to the top again, where they are cut off. This means that the underside of the rattan strands (from the first turn back) are not showing.

No further rim is added. Occasionally the *bayut* is made in black and natural colours to form a chequered design.

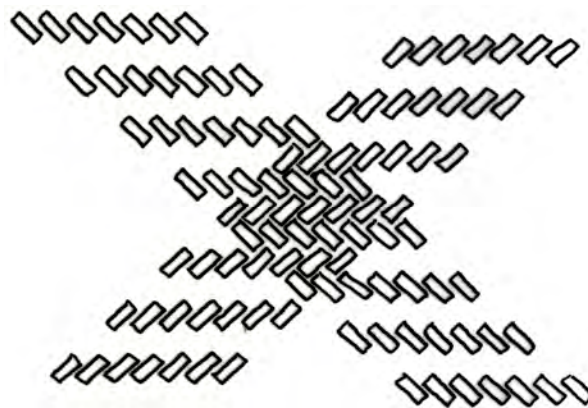


Fig.9.7. A chequered weave pattern.



*Cooked rice boxes* Kl., P. - *ah'ap*, L.B. *berkatan nuba*, (*nuba* means rice).

Predominantly made by Kelabit women, these boxes are used to hold cooked rice wrapped in a leaf, but occasionally fruit and other foods are also kept in them.

*Ah'ap* can be made of many different materials: *wei* (rattan), *kaber* (pandan), *bulok* (bamboo), *sebit* (bemban) for example. They can be round, rectangular or square, square being the most common. The width of the strands used is optional, although usually the larger the basket, the larger the strand width.

For a square box, the base is worked up with *mata* in a 2/2 or 3/3 plaid weave. When the base is large enough, the corners are tied to each other to prevent movement as they are turned to make the sides. When the sides have been woven the rim is turned and completed.

Two pieces of string are sewn into place under the rim with a needle. When pulled tight, these strings give the mouth of the basket a circular aspect. One string is positioned to each side, giving an even pull and lessening the risk of the string cutting the weaving material (the string passes under a couple of extra weaves to help in this).

Where *kaber* (pandan) has been used as the weave material, each strand is woven back through the weave until it completely runs out, in this way a thickness of several strands can be built up, giving insulating properties. Once complete, the string is pulled to narrow the neck of the container considerably, making a completely round opening.

The lid is made in the same way, except it does not have the string inserted at the rim. The lid tends to be deep enough to cover the container almost to its base. If the base weave and corners have been woven very tightly, the base becomes concave. This can also be seen on some lids.

*Ah'ap* are placed in the kitchen and filled with wrapped rice every morning by the women. This rice is eaten by the family throughout the day until finished.

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The Lun Bawang also use a basket made in this manner but without a lid, When used for cooked rice it is called *berkatan nube*, but when used differently for example for animal feed it is known as a *kebpang*.

\*\*\*\*\*

A second type of *ah'ap* is woven from rattan in a similar manner, usually in more than one colour. It was first seen by Salalang in the Penan community at Lg. Lamai, and is now in her repertoire at Lg. Lellang, a Kelabit community.

One of the major differences of this basket is that the outer surface of the rattan is found on the inner surface of the basket. It differs also in the way the sides are constructed. They are woven up to the height wanted, but then loop around their counterpart in the opposite direction, locking the two strands together and reversing the original weave direction. The 2/2 weave continues back downwards, until it is deep enough for it to be turned back on itself again, working up two weaves to produce a step, before again locking and turning. Usually three of these steps are produced in a downward direction, but if the rattan is short then only two steps are carried out.

This *ah'ap* is finished, near to the base, with one direction of weave strands being passed into the original weave of the sides, passing under two or three strands of the original weave, over the next set and under a third, before folding back on themselves, to pass under one final strand, where they are cut off. The second set of strands are pushed under one set of two or three strands of the original weave before also being cut.

Where a lid exists it is produced in exactly the same manner, but is very slightly larger so that it fits over the base to sit on the top of the first step.

*Leaves for wrapped rice - Phacelophrynium maximum* K.B. - *miuk*, Kl. - *da'un isip*, P. - *ujung jup*, L.B. - *don*.

This is the simplest of all the containers used in the Baram area, fashioned from a large leaf to contain a portion of cooked, hot mashed rice. The sides of the leaves, held at a slight angle are first rolled over the top of the rice and then a tuck is put in each end on one side only, finally, the ends are folded under and it is placed into an *ah'ap*, or into a pack for transportation to the farm or fishing area. This is one of the first tasks of the day for the women, who get up very early to cook this rice and boil the day's supply of water, ready for the rest of the family (Janowski 2003:27/28).

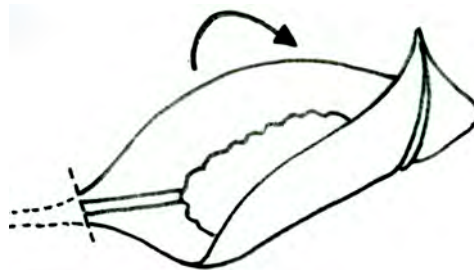


Fig.9.8. The fold directions of a wrapping leaf with cooked rice at its centre.

**Fruit baskets** Kj. - *ti'in*, Sk. - *tebowwa*.

The Kejaman use the word *ti'in*, both for the bowl described previously, and also a deeper container with a diameter of approximately 20 - 30 cms, woven by the women and used for keeping fruit. It can be made from bemban, bamboo or rattan, woven in the same way as an *ah'ap* base, without the gathering string. The weave for *ti'in* and *tebowwa* is usually highly patterned and often colourfully dyed. A split rattan is tied on around the rim using the ties seen on a *daya* (pl.9.2.).

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The *keratang* made by the Kenyah Badeng is very closely related to the *ti'in* and *tebowwa*, one of it's uses is to keep fruit, though it is thought of as multifunctional container. It is generally about the same size as a *tebowwa* and is produced of stripped rattan. It is made in the same way as the heavy basket of the same name, but with far shorter sides, forming a bowl shape. The edge is again

formed like the larger basket, but does not have straps.

### ***Water Containers***

Water containers are the simplest of the bamboo containers. They are produced from large bamboo, removed just below two consecutive joints, producing a tube, sealed at one end. Cut with a *parang*, they can be made by anyone.

Several of these containers are taken to the river in a *keba*, and filled, before being carried back to the house or farm to be used. Most homes now have piped water, but on camping trips or at the farm this container is still useful.

### **Utensils**

***Sago Bowls*** K.B. - *kiut*, P. - *nao*, L.B. - *ngeh'*, P.B. - *lulang*.

This is a shallow carved wood bowl (with a rim and a lobe with a hole drilled through it on one side, for hanging it up when not in use), produced by the men. Sago is cooked by placing it into the bowl, then placing the bowl into hot water Bain Marie style.

***Plates*** K.B. - *kiut kayu*.

Plates in the typical shape we all know, used to be carved from wood by Badeng men (pers. com. Darie Linchaw 2004). Darie Linchaw and Yunis said that a long time ago plates were made from stone (pers. com. 2001). Today the practice of making plates has died out because of the time required to manufacture them and the availability of cheap plastic ones, which are far lighter.

***Pot stands*** K.B. - *senap*, Kl. - *tapi lajang*, P. - *nyun lajang*.

These are made from scrap rattan, formed from the stripping process for weaving, and as such is quite rough in its construction. The rattan is made into a ring, strung across like a spiders web, with further strands of rattan. The ring

and the top parts of the stringing are thoroughly bound round with rattan, to thicken them. A hot pot - *kerek* (P.) can stand on this stand, without burning work surfaces. The Lun Bawang use a wad of this scrap rattan for the same purpose. It is becoming more usual to see a 24 pack, cardboard egg box used for this purpose now.

### ***Pot scourers***

Excess rattan from thinning is used as an abrasive by the Penan, when washing pots.

***Fans*** K.B. - *aping*, Kl. - *berau*, P. - *persong*, L.B. - *bebper*.

I learnt to produce the Kelabit fan - *berau*. It is made from a small, whole, green, *Licula valida* (Kl. - *elat*, K.B.- *sang*) leaf, This leaf is shaped like many fingers, each on their own central vein but radiating from a single larger stalk. Initially a string is woven over and under the leaf separations, just above where they separate from the stalk. This string returns to its starting position, on the other side of the leaf completing the weave. The string is tightened to pull all the leaf separations closer together.

One of the two outer leaf separations is bent at 90° over the others and woven through the rest in a plain 1/1 weave. The leaf separation on the opposing edge is woven back. Then second separation on the original side is worked through, keeping to a 1/1 plain weave. This continues, working from each side until only three or four leaves remain. The leaves become crushed together as they are woven.

The remaining leaf lengths are woven through the already completed weave vertically, (if the leaf is long enough), back down to the stringing by the main stem, where it is cut off.

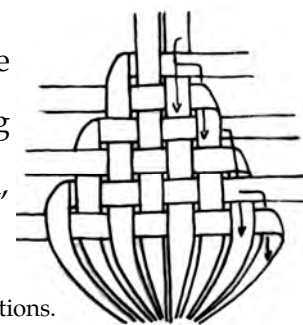


Fig.9.9. A fan showing the leaf fold directions.

The side weaves remaining are folded at 90° and are also woven back vertically to the main stem and then cut. This extra weaving makes the fan strong, but still flexible.

These fans are used, both, for fanning ones-self in the heat and for fanning the fire, to build up it's heat. As they age the *elat* fibres slowly dry to a yellow /brown.

**Covers** U.B. - *engup*, K.B. - *ngep*, Kl. *kekap*, P. - *tekup*, L.B. - *kekeb*.

This is a wooden cover or lid, carved by the men to fit the top of a jar or bowl. It is used in the kitchen to keep animals and insects away from food. There is often a handle carved across its centre to help with lifting.

**Ladles** K.B. - *kadai sintuk*, Kl. & L.B. - *keduit*, P. *akit*, P.B. - *sirok laluk*.

These are the same shape as ladles elsewhere in the world and are carved from a single piece of hardwood.

\*\*\*\*\*

A similar object to the ladle - *tavi' nyoh* used by such groups as the Punan Bah and Kejaman, it is produced from half an old coconut shell with the fibres removed. A piece of stick is tied horizontally across the open end of the coconut shell leaving a long length to form a handle. The bottom of the shell is drilled with lots of small holes. Batter is put into the bowl which is tapped over very hot oil. Thin strings of batter issue from the holes into the oil to form an open lattice (reminiscent of spun sugar), they cook to a crispy golden colour. When lifted from the oil, they are folded in half to form a crescent shape and allowed to cool before eating on special occasions.

**Air Pipes** K.B. - *batang posan*, Kl. - *liup apoui*, L.B. - *abpa' piap*.

This tube is made from any appropriate material available, such as bamboo or metal. It is used to blow air into the base of the fire, encouraging it to burn with more heat. (Janowski 2003:25 calls this *iop apui* from the Kelabit at Pa' Dalih)

**Sago Stirrers** P. atip na'o

Sago is the staple diet of all nomadic Penan travelling from one sago stand to the next as the supply is exhausted. It is also used as an integral part of the diet of many of the other groups, when available, a stand take seven years to recover from harvesting, before it can be used again.

These implements are used both to stir the sago when cooking and also for eating it when it is cooked. The sago stirrer is always a four pronged stick, with prongs cut in from one end, using an x incision. These prongs are cut down far enough for them to flair slightly, allowing sago to pass through them while it is cooking cutting down on lumps. The length of these sticks varies greatly, from 20 - 40 cms. Only two types of wood are used to make them, one is called by the Penan *berkuya* the other *bunga santan (Ixora)* (Katherine Lajo pers. com. 2002).

**Spatulas** K.B. - *baa*, P. *tuang*, P.B. *a oh*

The Penan spatulas are the same shape as those found in Europe for cooking, these long handled, flat ended paddles can be made from any type of wood available. They are used for general cooking.

\*\*\*\*\*

The Punan Bah and Kenyah Badeng varieties have a slightly rounded edge on one side of the 'blade' making this spatula ideal for use in a wok shaped pan or a deep bowl.

**Rice Paddles** Kl. - *bugo*, L.B. - *gugo*.

These are used when cooking rice, for stirring the rice and breaking it up into fine particles for wrapping in a leaf for later consumption. They are carved from a single piece of wood, using a parang, by forming a shaft and a rectangular paddle shaped base with a flat end, like *besai* (paddles used in boats) in some cases they also have a horizontal top bar.

In the main these paddles are about 30 cms in length, but some can be almost 1 m in length. The large paddles are used to cook for the whole community during times of celebration or for a '*gotong royong*', where the community get together to work on a particular project, varying from helping a neighbour in distress to harvest their padi or to building a bridge for village use.

### *Scrapers*

Although not produced from plant material, this kidney shaped thin metal scraper is used by the Kelabit to remove the stuck on rice from the sides of the cooking pot, leaving no waste and is an integral part of their kitchen equipment. This baked on rice is considered the tastiest piece and is usually of quite a chewy consistency and slightly browned.

*Skewers* K.B. - *tetuk*, Kl. - *pull*, P. - *solo*, L.B. - *abpul*.

These are whittled from various woods and are stored by the fireplace. They are for use when game or fish are plentiful, the food being skewered on to the sticks and cooked or slowly smoked over the fire.

*Tongs* K.B. - *ntang*, Kl. - *pit*, P. - *atip*, L.B. - *epit*.

Tongs are made from single lengths of large green bamboo, which are split into flattish sections about 4 cms wide. Excess thickness is scraped away from an area of the inside, at the middle, to give a recess, allowing the bamboo to be bent in half. The ends are tied together, the tongs dry to a yellowish colour and retain the bent shape. They are used to pick things up in the heat of the fire and to reposition burning firewood. (Janowski 2003:25)

*Pestle and Mortars* Pestle - K.B. *lu* P.B. *lu'ow* . Mortar - K.B. *lesung* P.B. *lu'ong* . Both - KJ. *lesoung*.

Small carved varieties of pestle and mortars are seen in most kitchens, both the pestle and mortar can be made from wood or stone, the shape remaining almost constant. The pestle is a shaft about 12 cms in length and 3 cms in



diameter, with a domed end. While the mortar is a vessel with tall sides and a rounded internal base.

These small pestle and mortars are predominantly used for crushing chillies, garlic, pepper and salt. Today these are more frequently shop bought, but older ones have been made locally by the men.

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The wooden implements found in the kitchen are mainly made by the men, whereas it is the women who do most of the cooking and therefore they who normally use them. Saloma Jalong of Lg. Main Penan community says:

‘Women normally cook, men will help. Women cook because men do more heavier work in the forest. And men do heavier work because they are physically stronger than the women. Not because of any traditional gender related hierarchy. When they travel, both sexes cook, depending on who is free.’ (pers. com. 2005).

Most women are also able to make these same utensils, certainly the spatulas I used whilst staying at Lg. Geng had been produced by Darie Linchaw when she needed to replace old ones. Wooden objects tend to be the remit of the men as they have more expertise in carving. Baskets made for the kitchen are manufactured by the women as they possess these craft skills and will be the ones using them. With the exception of knives all objects used are made by a family member.

## Living Room

### Mats

#### *Sitting Mats*

(1). K.B. - *pat lapit*, Kl. - *tika lampit*, L.B. - *ugam wei*.

These mats were predominantly made by the Kelabit and Lun Bawang, but many of the other groups found in the Baram area also have this skill (see pl.9.27). Today makers of this mat are dying out but a few makers can still be found within these groups. In Lg. Lellang, one old man is still making these mats. One reason for the slow loss of this skill is that there is a similar machine manufactured mat, although it is not of an equivalent quality, it is very much cheaper and widely available in the market place.

Often made to the specific requirements of the buyer these mats can be eight metres in length. The width is dependent, to an extent, on the lengths of rattan available, remembering that it has to be brought back to the village. Most often I found it to be the men that produce this type of mat as it is hard physical work, but Salalang at Lg. Lellang has learnt the techniques for manufacture. Sina Buad Aran at Lg. Lellang was also aiding Tama Pun Mengga to produce the edging for three mats for which he had commissions; I was taught to make the edge weave on these three mats.

The rattan used is the large sized *wei sega*, which has a beautiful golden colour when new, getting deeper with age. The lengths of rattan are split length ways, with a small notch cut at one side of either end, by the edge, on the same side of each strip. Holes are bored through the middle of the rattan, spaced equally along its length using a *sulat* - awl. The distance between holes has to be the same on each rattan length. A strong string is passed through the holes and the lengths of rattan are all threaded together, with a knot tied at either end.

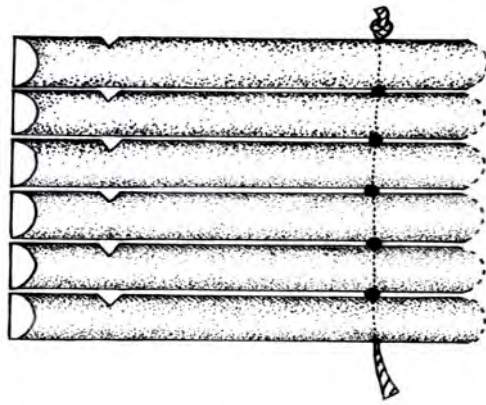


Fig.9.10. The rattan segments attached by a string passing through bored holes.

When all the segments have been attached, the notches are used to lock the complex edge weave running down each side, into place, giving extra strength to the mat. In some cases the large strips of *wei sega* are dyed black using a fruit similar to a hairless rambutan, called *pulasan* (*Nephelium rambutan-ake*), *merir pokok* in Kelabit. These dyed areas form stripes across the mat up to the woven edge.



Fig.9.11. The edge weave of a *tika lampit*.

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(2). K.B. - *ta'ing*, P. - *mak*, L.B. - *ugum kerubet*

A Second type of sitting and sleeping mat is made from a plant known as *sier* which is a *Cyperaceae*, this produces a very soft fabric desired for mats as it feels slightly cushioned, so they are very comfortable when sitting for long periods of time. This material is not strong, so these mats need replacing more often than other types, but they can be very colourful.

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This mat is also called *ugam kerubet* by the Lun Bawang, who make it for sleeping due to it's comfort. The type of *sier* (L.B. - *kerubet*) chosen by them is of triangular section. *Sier* grows in relatively short lengths (approximately 1m) so large mats are made up of smaller sections sewn together. Their size can vary dramatically.

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The mats are made in plaid weaves, varying from a 1/1 to 3/3 weave. I have never seen complex weave patterns on these mats, only simple checks.

Manmade dyes have become very popular for use with *sier* as it take up the dye so well and gives a far larger choice of colour. These mats are seen in most communities, along with all the skill to make them, but they are now frequently brought in from Orang Ulu communities from the Indonesian side of the border and touted around the villages for cash sales, due to the excellent exchange rate with Malaysia.

***Sleeping Mats*** P. - *mak*, K.B. - *ta'ing*, P.B. - *ou*. (See appendix 6, MDB 02 Durham University Collection).

Sleeping mats are usually produced by women, from high quality rattan, to make them as soft and pliable as possible, far finer and narrower than the rattan used for drying mats. The Penan from the Upper Baram will use *tepo'* to make sleeping mats for use at the farm. Gadong a Kelabit makes large mats in the style of sleeping mats from plastic strip, these can be of any size and are ideal for use in kitchens and bathrooms.

The weave style for these mats is a close plaid, often highly patterned and coloured so that the weave count changes across the whole mat. The strands work toward the top edge, where they are twisted by 360°, before continuing back into the weave at 90° to their original course.

Like Penan drying mats, these mats are started from the centre line, using strands of equal length. Often the strands are folded at their centre point so that the centre is always obvious, this builds into a crease in the weaving its self. Due to the amount of time a sleeping mat takes to make, the crease is very useful, as the mat can be easily folded away for storage when it is not being worked on.



Fig.9.12. The central weave line on a *mak*.

The corners of these mats are finished with a 90° corner if they are made by a very proficient maker. Although this corner is not as strong as a chamfered corner, these mats do not take the same abuse as those used for drying. If a maker does not have the skill to make a 90° corner they use a chamfered corner instead (see fig.6.26). In a 90° corner the two central strands turn round each other, before passing back into the weave in the direction from which they have come.

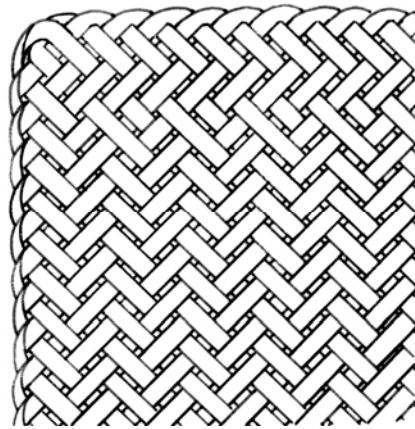


Fig.9.13. A 90° corner without a chamfer.

When the mat has been woven to the size required, either a single or double, the edge is turned. A piece of string or rattan is placed at the point where the edge is to fold over, and a single weave is put in holding the string in place. Both directions are brought over the string and pushed back through the weave where it can be cut off ready for use.

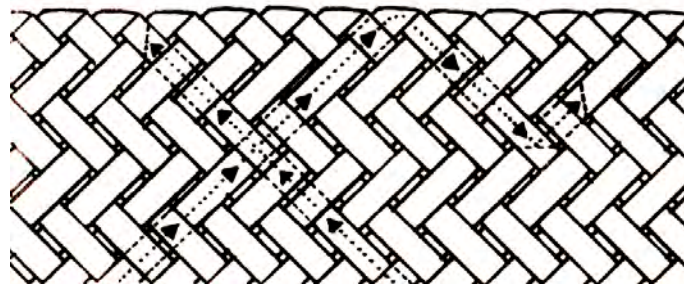


Fig. 9.14. Strand directions for the edge.

Very fine mats can take up to three months to make, as other work usually has to take precedence, especially during times of harvest and land clearing. Simple mats in a basic *kutek* (P.) pattern take about a week.

Sleeping mats are one of the items often traded by the Penan for goods or money, prices obviously increasing dramatically for a highly patterned and coloured piece which has a traditional design. Regionally prices can vary considerably, many mats are also made in Kalimantan and brought across the border for this same reason. These mats are sought after by many people in Sarawak, locally, in the cities and by tourists, they are even collected.

Both sitting and sleeping mats have to be rolled for storing to prevent permanent folds occurring. When not in use they are usually kept in the house eaves.

## **Containers**

*Spiral weave baskets* K.B. - *Bakun* (This is the basic word for basket in most languages of the area and comes from Malay).

There are two styles of this basket found with variations to each. Both appear to me to be a recently acquired design, rather than a traditional one. I could find neither of the styles in the literature, or in the various collections I was able to view. This design is seen in Europe and amongst other areas to the north and west of Borneo. It is a design construction often used in the production of baskets from willow and wattle, materials that are usually used whole, rather than split. I make the assumption that this is an introduced design, brought by a migrant group and assimilated into Badeng culture.

The two styles are used for indoor decorative use; for holding fruit; or small possessions, as a type of tidy. One *bakun* being produced by Catherine at Lg. Geng at the time was to be used for an artificial flowers, these have since become very popular and can now be seen in many of the *rumah*.

The rattan used for both styles is produced by stripping, using a *pejat* style

*janggalat*, to produce lengths of rattan with a round section; the strands having an approximate width of 1.5 mm.

The first style of *bakun* is oval in shape and initially produced from pairs of passive strands, three of which are laid horizontal to each other to form the longer sides of the basket. Through these pairs are woven further pairs at 90° and these pairs form a central core from which the basket can be woven. The pairs at either end are fanned out slightly and short pairs placed in between until the distance between each pair is fairly even. It is imperative that there is an odd number of pairs, as it is this that allows for the weave to pass over a pair on the first round, and under it on the next round, holding it in place.

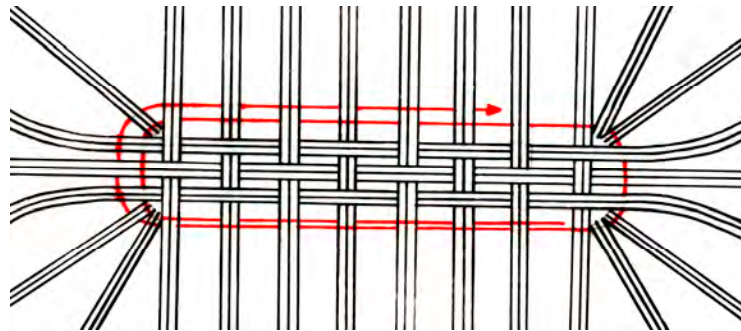


Fig.9.15. An oval *bakun*, showing the starting weave.

A single long strand of rattan is passed over and under each pair in order, to build up the weave. Where a long strand runs out, another is started several pairs back and takes over the weaving.

Once an oval base of the required size has been completed the pairs are bent upwards and allowed to lean outwards slightly to form the sides. The single strand weaving is continued up the sides. To form a rim, the pairs are bent sideways and apart to pass on either side of the next pair where they crossover each other. The second pair is opened out in a similar way forming the rim, each pair being worked with the previous pair, this gives the rim a plaited look. To finish the strands are cut, as they are already firmly held in position.

The second style of *bakun* starts with pairs of round section rattan laid across each other to form a wheel shape. Extra paired spokes again being placed in between them, an odd number of spokes here is again used, these pairs become the passive strands in the weave. A single, long, strand is woven in and out of these spokes until the spiral (*lilit*) formed is considered large enough to form the base.

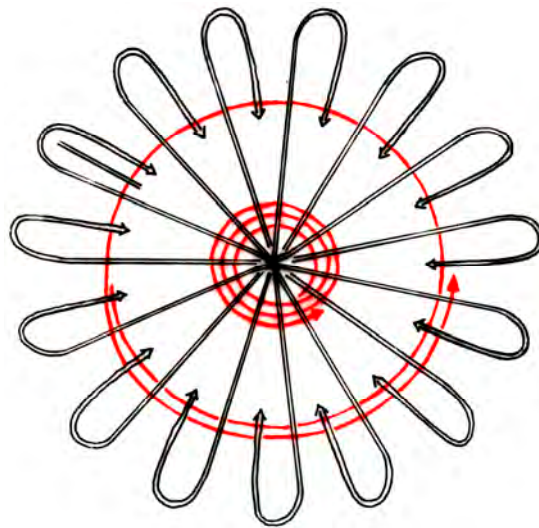


Fig.9.16. The starting point for a circular *bakun*.

At this point, the spokes are bent upwards, and then over to the side, to form a petal shaped loop, slightly higher height of the weave. In the centre of one of these loops, an extra straight pair is placed, to keep the number of weave strands odd.

The weave is continued up the sides of the *bakun*, in and out of these petals until it reaches the required height, at which point the active strand is cut off and its end tucked under itself on the previous weave round, holding it in place. The remaining ends of the petal shaped loops are again made into further loops below the base, forming a stand for the *bakun*.



Fig.9.17. The position of the petal shaped passive loops.

The tops of each loop are then pulled to make sure they are all of equal length, preventing the *bakun* from being lopsided. Any excess from the loops is pushed



back into the weave. A new active strand is introduced below the basket to fill in the weave for the base. It is again necessary to add a further single pair of passive strands.

*Small lidded boxes* K.B. - *kiran*, P.B. - *jarong*.

The Badeng use the *krien* for the sole purpose of holding sireh<sup>23</sup> and tobacco paraphernalia: tobacco, banana leaf papers, betel nut, lime, sireh leaves and cutters. This box is used by the household and for guests, rather than taken travelling. The most common box used for this purpose is made in brass, and almost every room will have one of this type, but it is of recent introduction to this area, although still often an antique. Traditionally a *kiran* was a small rectangular woven box, approximately 12 x 14 cm; with a lid and is still made by some people today.

The weave used is a 2/2 plaid, with a little decoration sometimes seen in the weave. *Kiran* can be manufactured from various materials. A string is usually attached to the lid, so that it can be wrapped around the box to hold the lid safely closed.

*Tobacco Holders* K.B. - *tik*, P. - *turkek/tetek*, L.B. - *selapa'*.

Tobacco holders contain along with the tobacco, items such as matches/flint, wood strikers and young banana leaves for use as cigarette papers.

A large piece of bamboo, with an outside diameter of at least 6 cms and a length of approximately 20 cms between the joints is used to make a tobacco container. The bamboo is cut just below two consecutive joints, so that one end is fully sealed by the joint. A second segment is then cut from a larger piece of bamboo, with a diameter bigger than that of the container it is to cover, it again incorporates a joint. This forms a lid. To create a good fit, the inside of the lid and the outside of the container can be shaved slightly, aiding the fit.

<sup>23</sup> Sireh boxes such as these covered in beadwork can be seen in Tillema's photos from his journey of 1927-8 into the Apo Kayan, Kalimantan (1989:177. pl.160), it notes that when Nieuwenhuis visited in 1900 the use of sireh was unknown.

A second way to produce this container, is to take a piece of bamboo and cut it in a manner that includes two joints, one for the top, the other for the bottom. This sealed container is sawn in two, one part shorter than the other. The short section becomes the lid. The bottom section has a very long taper put on its outer wall. Which then fits inside the lid. It is necessary to put a slight chamfer on the inside of the lid to ensure a good fit without forcing.

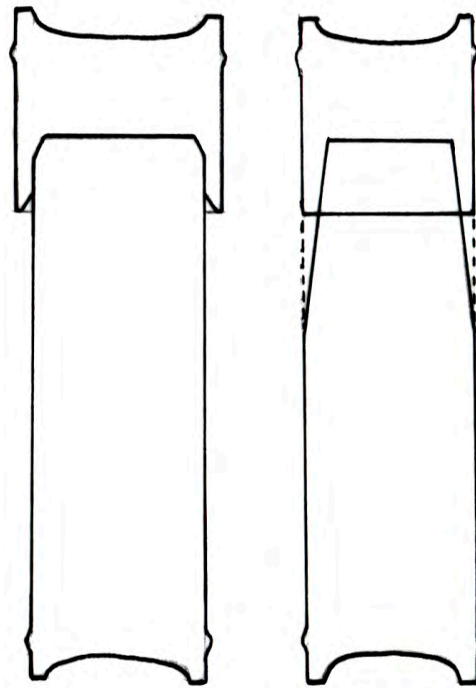


Fig.9.18. The first container is made from two pieces of bamboo, whereas the second is made from a single piece



Channels are incised into the bamboo on both styles of container, one on the lid, just above the rim; the other just below the rim on the container itself. A band of rattan is plaited into each recess (similar to a Turks head knot).

Fig.9.19. The lid attachment detail.

There is often incised decoration around the lid. A piece of string is pushed under the bands on one side, passing through a small hole bored into the lip above the lid joint and back through the other side, where it is again held under

the plaits. This string has to be long enough to allow the lid to be removed easily. Where the string crosses the top of the lid, a second string is attached. This is to fasten the container to the belt by looping it through and allowing it to hang down. To help stop the container working loose, a stone traditionally used for knife sharpening is attached to the other end of the string, acting as a counter weight.

**Document Holders** P. *bolo' senang*, Kj. - *buan*, K.B. - *telok*, L.B. - *beru*.

It is used for the safe keeping of all documentation and certificates, anything of great personal importance. Presumably, previously this container would have been used to contain tally sticks to record debts.

One type of document holder is made from bamboo, *bolo'* being the Penan word for bamboo. The holders length is dependent on what is to be kept inside when rolled up. It is produced in the same manner as the *turkek*, but without the carrying, or lid string. The plaited rattan bands are still positioned in recessed channels and decoration seen on the surface, usually in the form of *betek perka* and *jipen kelit*. (bats teeth).



Fig.9.20 &21. A *betek perka* design and a *jipen kelit* design.

The container is carried inside a basket along with other personal belongings.

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The Kejaman make the base of this container in the same way, but the lid is produced from bilian with a raised, decorated ridge along its centre, which is frequently carved with the recesses filled with a white medium.

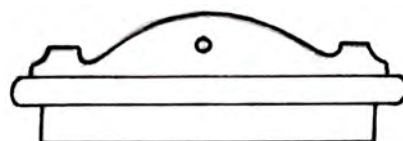


Fig.9.22. A Kejaman style bilian lid.

In many cases it is used to carry the musical instruments of the women, both Telan and Sabai from Lg. Segaham use theirs to carry nose flutes. Both of these containers are now dying out, as they are being replaced by boxes and bags made in plastic.

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A *telok* is a long woven tube with a lid, used by the Badeng to hold and carry important articles such as documents and money, used in the house, when travelling, or at the farm.

The *telok* starts from an 8 x 8 cm, of 2/2 plaid weave, with *mata*, then after turning the corners, forms a tube of 30 cm or longer. The rim is turned in the usual way. The lid is produced in the same way as the base. The *telok* has a telescopic quality about it, and can be pulled to make it longer and thinner, or shorter and fatter as desired.

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Again, who makes an object depends on the material being used. Basketry by women and objects made from wood or with carved decoration by men. Physically strenuous manufacturing methods like the production of *tika lampit* are generally, but not completely, the remit of men.

### **Multi Positional Household Objects**

**Hammocks** K.B. -*tekiyok*, Kl. - *atui*, P. - *sevitut*, L.B. - *patoy*.

Hammocks are used during periods of rest, usually in the hottest part of the day. They are strung in a shady place, where any breeze present can be felt, often at the ends of verandas, covered walkways or between trees. Children make use of them as a form of game/swing, with a many playing at once and singing in time to the swinging.

Produced by the men, the hammock is made from various types of string, including nylon for fishing nets or plastic string, they are attached around

beams and pillars with a piece of rope. The knot used is the same as that used to make fishing nets and is known by the Badeng as *tuang* (see fig.8.12). The Penan at Long Main also produce small hammocks for single children.

### *Fly swats*

These are produced from a single rod of rattan, with its end split into several sections and splayed. A strip of rattan (often part of the excess from stripping) is woven in and out of the splayed sections. As it runs out, it doubles round and passes back through the splay, and another piece is introduced. This process is continued until almost the whole length of the splayed section is covered. Then tip of each section is doubled back to hold the weave in place. To finish, the weave strand is tied off to one side.

**Brushes** K.B. - *brut*, Kl. - *apuh*, P. - *kului*, L.B. - *berus*.

The brushes, for use inside the house, are very basic much like our besoms, being a collection of plant stems, bound together with rattan and the ends frayed (Janowski 2003:25).

### *Ladders*

Ladders are made from a single, straight tree trunk with the branches removed. Steps are hewn into one side of the timber by the men to form small platforms on which to stand.

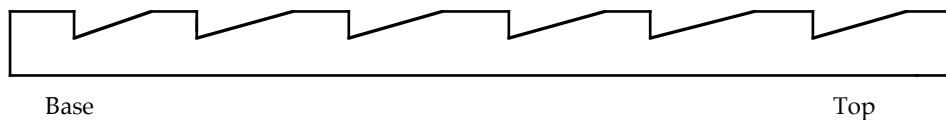


Fig.9.23. Ladder.

The base is put on the ground with the ladder leaning almost vertically against the object to be climbed, usually up to the longhouse veranda, rice store, farmhouse or fruit tree. 'When sleeping, if the ladder is turned over [so the uncut surface is to the outside], the dog cannot go up.' (pers. com. Seluma Taie (L.B.) 2004). In earlier times, if it was thought that there was danger present, the

ladder would have been drawn up onto the veranda to prevent the access of unwelcome visitors.

### ***Bird Cages*** (K.B. - *buankiking*)

The bird cage is made from various materials and is used to keep small pet birds. They are found hanging on verandas and on the platforms at the rear of each set of living quarters. The cage is dependent on the size of bird, as there has to be enough room to allow the bird to move around easily.

One cage I saw, belonged to the Kenyah Badeng and was being used to hold a small finch type bird. It had been produced by one of the men from *sa'ung*, the wood usually used by the men to make fish traps. Like fish traps, the wood is cut into thin stays, about 45 cms long. The central sections of these stays were joined together by two strands of rattan woven around each stay, then around each other, before separating to go either side of the next stay until they were all joined. The distance between each stay was dictated by the number of twists the rattan strands make together before separating for the next stay, they needed to be kept at a reasonably similar distance from one another.

The joined stays were moved round to form a tube and the rattan is tied off at the start point. Two rattan hoops were placed on the inside, one level with each of the lines of rattan tie. These hoops had been bound into position using a further rattan strand over the first sets of ties. The ends of the stays were folded inwards, gathered together and tied, then pushed through a cone of rattan, woven using 2/2 plaid weave, it was kept in position by the stays trying to return to their original position.

The top tie is made into a loop for hanging. A stick can be positioned on top of the lower rattan hoop, between the bars and secured in place at either end to act as a perch.

Today bird cages are mainly produced using a selection of the pre-formed galvanised wiring available e.g. chicken wire or netting. In cases where lengths of wire, rather than mesh, are used, I found traditional methods of joining still in evidence.

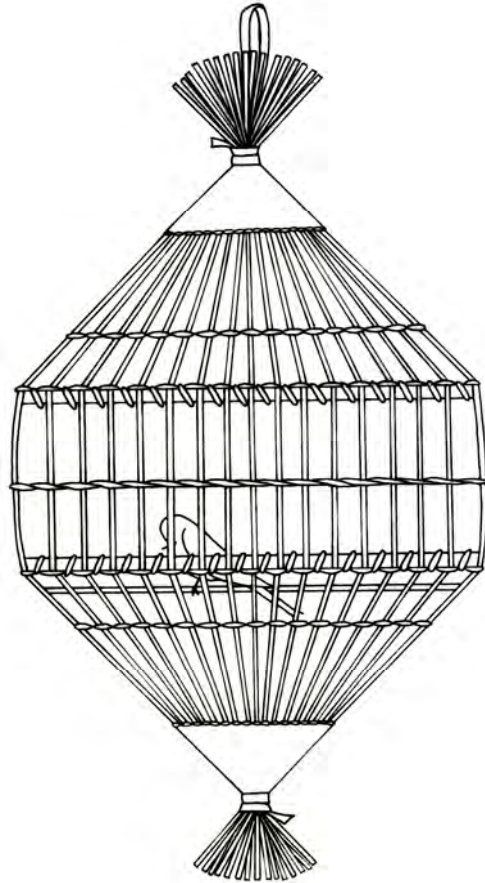


Fig.9.24. A Kenyah Badeng *buankiking*.

**Sacks** K.B., U.B.K. - *barang*, Kl. - *kalban*, L.B. - *tebpung*.

Woven items such as sacks were the main storage choice prior to the use of modern plastic sacking. *Barang* are narrow necked sacks/baskets made to any size and produced from most of the materials available including *sier*, the choice is dependent on use and personal requirements. The purpose of these sacks is manifold, in their larger forms these uses include the storage of the padi and pepper harvests, the small forms can be used for the safe keeping of seed for the following years planting and such items as sireh and tobacco. Sacks are, therefore, found in many different locations, at the farms, in the rice stores, on back verandas and in the kitchen, anywhere where they could be useful.

There are two styles of *barang*, square or rectangular based, the choice being entirely dependent on what the maker deems most appropriate for its required function.

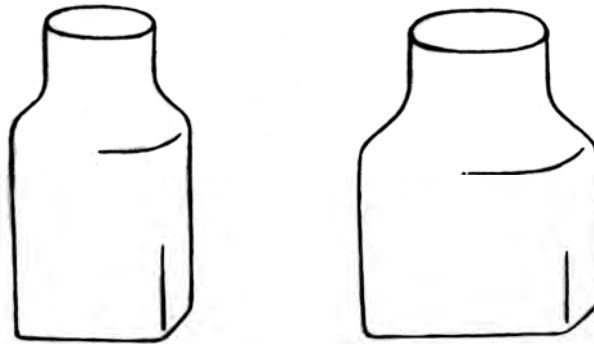


Fig.9.25. Square and rectangular based *barang*.

The square based type starts with a 2/2 plaid weave using *mata*, worked corner to corner, from the centre, until completed. At this point the corners are turned and the sides worked upwards to the point at which narrowing for the neck is due to commence.

Rectangular bases are formed by placing the *mata* down the centre of the base with the 2/2 plaid weave working out from them on either side. When the rectangle is almost to size, the *mata* change position to move out towards the corners, forming a pattern thus: >---<. The corners can then be turned easily without interrupting the 2/2 pattern, as it transfers from the base to the sides (see fig.4.16). The sides continue until the neck narrows (see pl.9.40). Any pattern used is up to the maker's discretion.

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*Barang* in the Upper Baram have pairs of extra strands placed on their corners, giving eight additions in all. These extra pairs cause the container to flair outwards, this addition is carried out three or four times. In Lg. Belaong, these pairs are called - *tu'ang*.

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There are two distinct ways in which the neck can be narrowed. The first



method involves pairing every strand in both directions with its neighbour and continuing with the 2/2 weave. The initial effect is to produce a row of weave in one direction that has become a single weave, then a double and again a single, around the circumference of the sack. In the opposing direction, it appears that each strand passes over four strands, before the pattern returns to a typical 2/2 plaid weave, the weave has to be pulled tight to close it together.

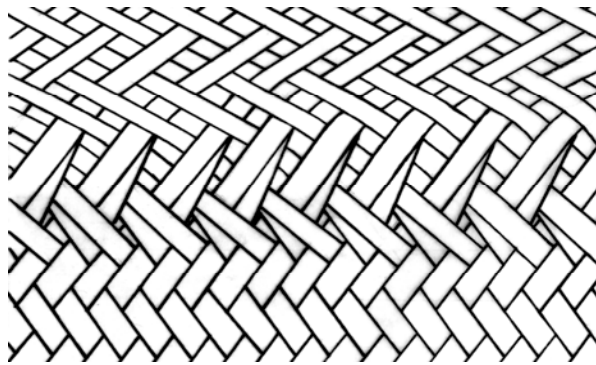


Fig.9.26. The use of paired strands in both directions forcing the neck to narrow.

The second method of narrowing the neck involves pairing the strands in one direction. In the other direction every second strand is folded down at right angles to its self and passed back through the weave in the same manner as a rim. The weave again continues in its 2/2 plaid pattern (see pl.9.40/1).

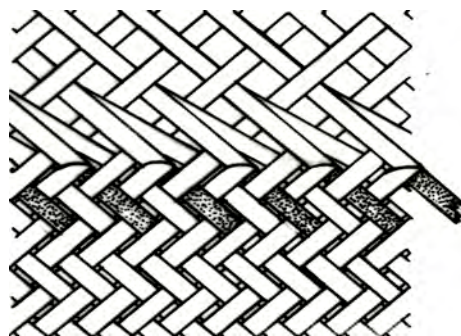


Fig.9.27. Narrowing the neck with a single direction of paired strands.

The latter method appears to form a neater, tighter finish. In both cases the weave is continued until it reaches the full height wanted, then the rim is produced in the normal fashion, turning one strand direction back at 90° and passing it back through the weave, before cutting the excess away.

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Many *barang* in the Upper Baram incorporate a secondary rim of whole rattan with decorative rattan ties to hold it in place, similar to the rim on an *ingen*, this addition is not used by the Badeng.

When these sacks are used they often have lids. Many lids are carried out in a basic 2/2 plaid weave with decorative elements incorporated into the weave. The simplest form of lid decoration is to fold back the strands prior to cutting and passing them back over a single weave. The strands can also be twisted at this point giving a different decorative element, something frequently seen on the Uma Bakah Kenyah *krien* (see fig.6.4.) and used here by many of the groups.

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A completely different lid variation found at Lg. Belaong made by Asong (see pl.9.43), but not known by Salalang from Lg. Tungan, slightly further up river, introduces a new way of turning the corners. Having borrowed her *barang* when I visited her, I took it to Lg. Lellang and Salalang and myself proceeded to teach ourselves this new technique. Salalang is now introducing this lid into her repertoire.

The top of the lid is woven in a 3/3 plaid with *mata*, these strands run, not to the corners in the usual manner, but to the midpoint along the sides of the square being produced. The width of the square matches the diameter of the mouth of the base. The corners of the weave are folded into the centre, creased and opened. Next the woven square is folded in half in both directions and reopened.

The corners for the lid are produced by bending the strands over completely and weaving them in this position, so that the two strands at the apex of each corner loop around each other. The weave continues until it is half the length of the top and they can join together to be woven, forming the lid mouth. When there is enough overlap with the base of the sack the rim can be turned. Again

a whole rattan ring is placed on this rim and decorative ties used to hold it in place, the corners are pushed open so the lid resembles a small crown (see pl.12.8).

In the Baram a *barang* often has a lid and a patterned decorative weave especially on smaller versions used for keeping sireh or tobacco, possibly this decorative weave is because these types of sack are more public and often offered to guests.

### *Flowerpots and Vases, New Objects*

These are a totally new manufacturing acquisition to the Orang Ulu and are based on styles from elsewhere. Traditionally pots of flowers used for decoration were not seen in the villages, but have recently become very popular and can be found in most communities, pot styles are often based on items seen in town.

Gadong produces ornamental planters in plastic. The planters are used inside for either dried or fabric flowers, or outside, plants, they vary greatly in size. Four small feet are woven into the base of the planter, a style more often seen on Iban artefacts such as the *gadai*<sup>24</sup>. The rest of the shape is similar to that of a flowerpot, round in section, but flaring outwards gradually towards the top. It terminates in a highly decorative rim.

Dorothy Busak, a Kelabit living in Marudi, makes various different types of baskets for flowers and other decorations, from recycled materials; a favourite being newspaper. She rolls the newspaper into tubes around a piece of galvanised wire, this then becomes a weaving strand and can be built up into many designs of any size. The weave is generally worked using an odd number of spokes like the Badeng *bakun*. These spokes cross at the centre of the base with strands travelling in and out of them to form the shape. In some cases the

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<sup>24</sup> Examples of *gadai* can be found in Jean-François Blehaut's book *Iban Baskets* 1998:206.

baskets are woven over a plastic container so that they can be used to hold fresh flowers in water. Once the weave has been completed the outer surface is sprayed with paint to the colour wanted, this gives a hard elegant surface, disguising the fact that it is produced from newspaper.

Dorothy's baskets are made to order, from as far afield as Kuching. Her business was first started in 1994 when Dorothy got the idea from watching her daughter pretend to roll cigarettes like her father as part of a game. She experimented with many different materials, beginning with plastic straws. In some cases, Dorothy makes flowers for her baskets out of other recycled materials, such as egg boxes, they are very well observed, following the plant form precisely. In most cases they are coloured to the shades found in life, but occasionally are made more dramatic by the use of crimson and gold spray.

### *Storage*

In the kitchen, objects such as *bubu*, trays, sieves and drying mats are placed on shelves above the kitchen fire. The smoke from this deters insect and animal infestations from eating these structures, and keeps the items dry, preventing rot.

Many objects are stored in roof spaces, but these items are prey to all the problems mentioned unless the roof space is above the kitchen, therefore again benefiting from the preserving properties of smoke from the kitchen fire. The hearths are made without chimneys, using a roof flap or windows to prevent an uncomfortable build up of smoke.

Litad Selutan (pers. com. 2003) says that the Lun Bawang will place certain baskets inside a sarong that is tied at the top and bottom then strung from a ceiling hook, preventing access to infestations from animals, birds and insects.

## Toys

The making of toys plays a crucial role in the manufacturing of utility objects. Many toys are made for children by adults, but a great number are made by the children themselves for their own entertainment. This early learning starts the skills later required to produce many other items, up to and including houses, which in Sarawak are made entirely of wood.

The most basic toy involves only a stick and an old tin lid. The lid has a hole pierced by a nail through its centre and attaches it to the stick, forming a very basic pivot on which the tin lid revolves when the lid is run along the ground. It gives hours of endless fun to the smaller children who weave their way in and around the leg supports of the houses. To begin with their mothers will perform the nailing, but in very little time the children take over, using anything readily available for a hammer. From this most simple of toys, the next stage is making small vehicles of indistinct character (see pl.9.59), but roughly resembling cars and lorries, depending on their length. The children whittle a basic shape with the aid of a long handled knife (*pueh* - K.B.). The wheels are fabricated from battery seals or bottle tops, once again nailed into place. This vehicle is tied to a piece of string and the running around under the house continues with the vehicle in tow. Far more complex cars can be seen, but these are produced by an adult, for example Osat's truck in Lg. Lellang (see pl.9.60.) was produced by a carpenter working in the area.

As the children get bigger other items are produced for them. Leh in Uma Badeng has a boat - *alut* (K.B.) made by his grandfather Asang Lawai, from a single piece of wood. The outer shape was produced using a parang, and the inside scooped out by cutting into the top surface at an angle with a knife and shaving the material away. The whole time this was being carried out Leh was on hand to watch and so learn. Leh, four years old, frequently follows his grandfather whilst he is doing his tasks. When Asang Lawai blacksmiths Leh is

usually the little boy who turns the handle of the centrifugal blower to oxygenate the hearth fire, (thus giving a far greater temperature). Other little boys have also been put to this task, but the onus is on Leh as the grandson and for this he is handsomely rewarded. One of the processes he has watched, many times, is the making of *parang*, he has witnessed every stage of manufacture, from the blade to the completed sheath. He now is the owner of a mini *parang*, in scale with his size, it comes complete with a very blunt wooden blade. Asang gave me one of these wooden *parang* so that I too can play, I have never been encouraged to handle the real thing at Lg. Geng, although I am frequently given the *pueh* to use.

Another item Asang has made for Leh is a small paddle for a boat - *besai*, with which he paddles his pedal car up and down the veranda, using it in the same way he has seen older people paddle a boat. Not only is Leh having great fun, but he is learning.

Older boys make catapults from small tree forks and lengths of rubber, with which they practice targeting objects. Apoi and Galak are frequently to be seen with them slung around their necks on their way out of the village at Lg. Lellang.

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Girls spend great lengths of time watching the women at work. One of the first items they learn to make is a simple *ulat* from *namam*, which they then wear as jewellery. They start learning as they watch the women preparing *ulat* for the rims of *serut*, then try to make these for themselves being helped when mistakes are made.

Other items played with by girls include small baby carriers, (Ch. 12, pl.9.52) Occasionally I saw small wooden dolls, made by the men, but more frequently, rag dolls made from old sarungs by the women. Small bags are also made of both plastic strap and rattan for their "dressing up".

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Adults play several games, *sepak takraw* in Malay, is played in many villages, the object being to keep this rattan ball off the ground using the feet. Spinning tops called *gasing* in Malay, are also produced from hard wood (which the Kelabit call *tulung*) and string, competitions frequently ensue. According to Hose and McDougall This game is played around the time of the *padi* harvest (1912 (ii):163). Small boys often make *gasing* from nuts found on the jungle floor. The nuts are pierced down through their middles with a piece of shaved wood this produces a stick to grasp for spinning at the top and a small point at the bottom.

The game mainly played by the women is *congkat* (Malay) (P.B. *tok*), this is a long piece of wood with two rows of cup shapes bored in along its length and larger recesses at both ends. These cups are filled with small stones and the object of the game is to move all the stones into the recess at your end faster than your opponent can move stones to his end of the board, whilst taking turns and abiding by a set of rules. This game is popular in the whole region, but the *congkat* used by the Orang Ulu usually have more cups than those of the Malays. The men make these wooden games except the small *gasing* which they show the little boys how to manufacture.

TYPE OF OBJECT		MADE BY:		USED BY:		FOR SALE
Wood/bamboo	Other Plant Material	Male	Female	Male	Female	
	Trays		√	both		
	Cassava baskets		√		√	
	Rice boxes		√	both		
	Fruit baskets		√		√	
Water containers		both			√	
Sago bowls		√		both		
Plates		√		both		
	Pot stands		√		√	
	Pot scourers	both		both		
	Fans		√	both		
Covers		√		both		
Ladles		√			√	
Airpipes		√		both		
Sago stirrers		both		both		
Spatulas		√			√	
Rice paddles		√			√	
Skewers		√			√	
Pestle and mortars		√			√	
	Mats	specialist	√	both		√
	Baskets		√		√	
	Woven boxes		√	both		
Tobacco boxes		√		both		
Document holders		both		both		
	Hammocks	√		both		
	Fly swat		√	both		
	Brush		√		√	
Ladders		√		both		
bird cages		√		both		
	Sacks		√	both		

Fig.9.28. User/Maker table.



## MULTIPURPOSE TRAVELLING BASKETS

Several types of small baskets are used during every aspect of life, farming, hunting, around the village, visiting the town, where ever the owner is going. The baskets are used to carry produce, clothing, valuables any small objects needed for the trip about to be undertaken. Whilst I was at Lg. Geng, Dang made herself a new basket in the *serut* style specifically to take to the hospital when she went to give birth to Melvin. The *serut* is used for important occasions of all types, whereas the *blanyat* and *gawang* are used for rougher carrying. I also saw the *serut*, in preference to the other styles of baskets, used as a gift for visiting dignitaries.

These baskets are somewhat smaller than the carrying baskets in the previous chapters, but still vary in size depending on their particular use. Today, often used in and around the village and on short foraging trips by the women, these baskets were previously used by men when they undertook long journeys, to contain items such as tobacco, sharpening stones and a packed lunch. They would have been carried in conjunction with the larger baskets used on these expeditions.

The several types of small baskets are worn on the back with straps. There are a great many types of *serut*, and *blanyat* but all share the same distinctive style of rim, finished with a row of loops - *ulat* (K.B., P.) (Kj. - *soldat bi'yong*), through which a string is passed and the straps are attached. The number of these loops depends on the circumference of the mouth of the basket. The *ulat* are plaited from a single strand of rattan (see fig.4.31) and are held in place along the edge of the basket by the weave itself, so are an integral part.

'A smaller cylindrical basket, very neatly plaited of thin and very pliable strips of rattan, is used for carrying the few articles a man carries with him in travelling - a little rice and tobacco, a spare waist cloth, a sleeping mat, perhaps a second mat of palm leaves used as a protection against rain, a roll of dried

banana leaves for making cigarettes, perhaps a cap for wear in the house, and, not infrequently nowadays, a bright coloured handkerchief of Chinese silk. The lip of the basket is surrounded by a close set row of eyes through which a cord is passed. To this cord a net is attached, and is drawn together in the centre of the opening of the basket by a second cord, in order to confine its contents, this basket is provided with shoulder straps only.' (Hose & McDougall 1912:58).

## Traditional Bags

### Travelling Bags

*The Blanyat* - K.B., P. - *serut majat*, Kl. - *ajat ranat*, Kj. - *bi'yuong*, L.B. - *kerawang*.  
(See appendix 6, MDB 05 Durham University Collection)

The *blanyat* 'is used to carry most things except wood, because it is delicate and wood could cause it to tear' (pers. com. Saloma Jalong 2005). This particular style of basket is woven in two different ways, by both men and women for personal use, using an open weave.

(i) In the first type of *blanyat* made by the Kenyah Badeng a scalloped edge is formed using two rattan strands bound to a whole rattan hoop (fig.10.1.); the weaving strands are added by folding them in half and putting an end to either side of one of the bindings on the ring and pulling them through; this is continued until the required number of strands are in place.

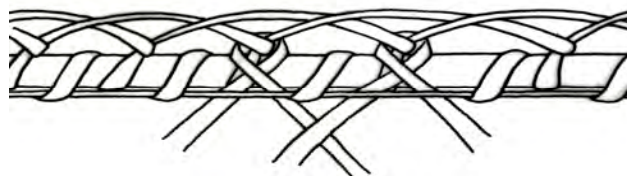


Fig.10.1. Strand attachment for a *blanyat*.

The number of strands depends on the number of *ulat* being used, with four weaving strands per *ulat*. A strip of rattan is attached to the hoop over these strands, to hold them flat for weaving. A further strip is wound around the ring, in between the weaving strands, this eventually acts as an anchor for the base.

For the main body of the *blanyat* a simple 1/1 weave is employed. After each overlap in the weave, a supporting strand is positioned, horizontally to the ring, to hold the weave in place and to ensure that it remains even.

Fig.10.2. The base ring with its bindings and the horizontal supporting strands within the weave.

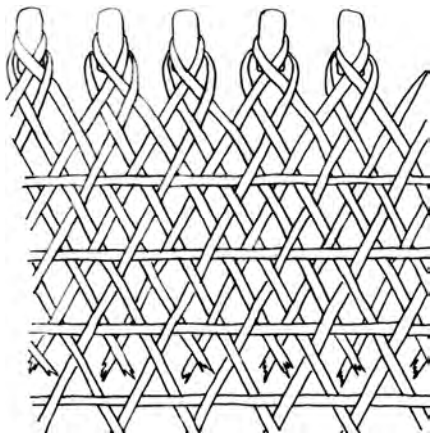
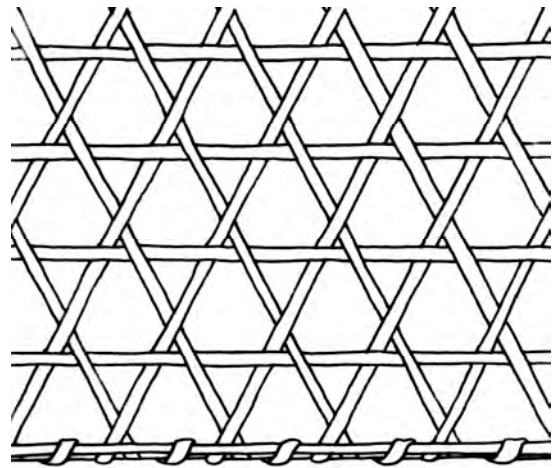


Fig.10.3. The strands passing through the *ulat* and back down through the weave.

When the weave has reached the height wanted *ulat* are incorporated by passing two strands from each side through the centre of the *ulat*, then crossing them over the front of the *ulat* before continuing the weave, this time weaving from the top, in and out of the previous weave back to the rim, keeping to the 1/1 weave pattern.

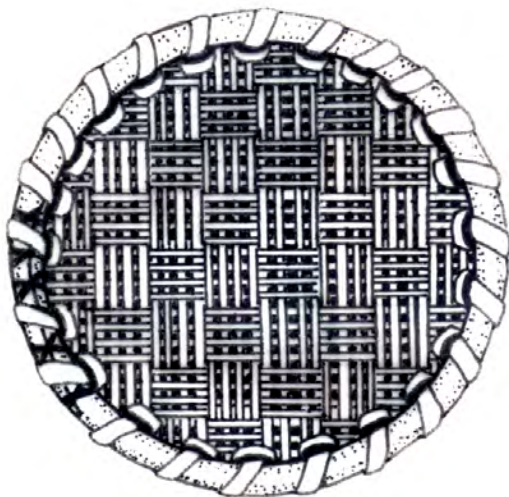


Fig.10.4. One style of base weave found on *blanyat*.

The weave strands pass through the loops formed by the anchor strip on the rattan hoop and are woven across the base four at a time, two from one side of the rim and two from the opposing side, so that they lie next to each other and build up to form a chequered weave pattern. When each strand reaches the opposite side it is cut off. Then all the supporting strips are cut out.

A strip of rattan or string passed through the *ulats* attach a pair of straps, the other strap ends are held on to the base by a second rattan strip or string.

(ii) A second style of this open weave basket is woven in most communities.

It is started from the top edge, by threading four strands through each *ulat*, to their centre point, these are then folded round, and form eight weaving strands.



Fig.10.5. The weave started from an *ulat*.

The typical weave of choice for this style of basket is a 2/2 diagonal weave mostly in *kutek* (P.) style. The top and bottom of the basket have to be carried out in a 1/1 or a 2/2 plaid regardless of whether the rest of the basket is woven in a 3/3 plaid, as these are the easiest weaves for joining the *ulat* together in a row. Once they have been joined the ends are brought together and the *ulats* at each end of the weave are woven together to form the shape of the basket.

Many baskets are not patterned as they are a totally utilitarian product, but occasionally decorative bands in a 1/1 (P. - *kermalek*) double or single strand weave can be seen in the central section. The decoration does depend on what the basket is to be used for, if the weave is too open small contents could fall out of the holes.

When the depth of the basket has been woven, the eight strands are again brought together, to form an eight strand plait, using either four strands on each side and weaving the plait, or by using four strands for a core, with two strands on each side of the core woven around it (see fig.4.28/9). These are woven to approximately three cms in length then folded at 90° inward to the weave to start the base, before they are cut off.

The base is then filled with the *ngeratung* weave found in the lids of chicken baskets (see fig.7.2.), using a single strand and incorporating the plaits by wrapping this strand around them to hold them firmly in place.

A rattan ring is positioned inside the basket at the base to help it to keep its shape and to give strength. It is cut with the tapered ends and is held in place by stitching over it and through the base.

At Lg. Belaong I saw a *blanyat* with a double base of *ngeratung* weave, the inner base was attached to the upper side of the rattan ring. Whilst the outer base was attached to the basket weave in the manner described above. Thus the rattan ring was entirely enclosed.

A cord is threaded through the *ulats* at the top of the basket and the top ends of the straps secured to it. Loops - *kisew* are woven through the base, for the attachment of the bottom ends of the straps.

\*\*\*\*\*

Kejaman *bi'yuong* are made in the same way, but the rattan ring used in the base is made from half rattan, rather than whole rattan. The weave is 2/2 open plaid for the most part, but often becomes a 1/1 plaid near to the top as a decorative element. The *ulat* are called *soldat bi'yuong* by the Kejaman. In general their baskets stand 40 -45 cms in height. The Kejaman use their typically thin straps on this basket.

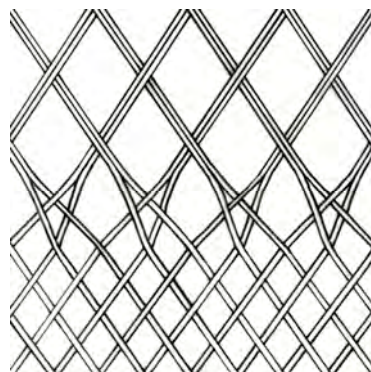


Fig.10.6. One of the decorative weaves sometimes seen.

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In the baskets of many of the groups, including the Kejaman, Upper Baram Kenyah and many Penan, a cord is found around the sides of the basket, about a third of the way up to prevent too much expansion of the weave when only a

small load is being carried. The cord also keeps the load at the bottom of the basket so that it doesn't move around too much when being worn.

\*\*\*\*\*

A further style is predominantly seen in the Upper Baram area, belonging to the Kenyah, Penan and Kelabit, though said to be Penan in style. This weave involves extra strands being added at about the halfway point. The strands are folded in half at a 90° angle and fed into the weave before being woven downward to the base. This style is finished in the same way as described, with the ring inside to give strength to the base.

This basket is becoming very popular, made in plastic. The plastic is durable and easily washable, giving it a longer life span if it is used to carry damp contents.

\*\*\*\*\*

A very similar basket, still called *blanyat* or more accurately *ulat bat* is now only made by one elderly Kenyah Badeng man, Ladung,, although Asang Lawai is learning the procedure to prevent the knowledge dying out. I did not see or hear of this basket in any of the other communities

The rattan used for an *ulat bat* has to be extremely long and pliable, with no faults along its length, it also has to be very finely shaved.

It begins from an *ulat*, with a three loop start. The third loop is placed between the initial two, passing under the first loop and over the second, a forth loops then starts from the point where they all cross. The work has to be held tight at this stage as if it is let go it will completely collapse. Any other start pattern will prohibit the formation of the sides of a basket. The strand is passed in and out of these loops slowly building up the sides, giving an extra loop height at each pass round the circumference.

The weave starts as a 1/1 plaid, but as the strand continues to work around, it eventually becomes a 2/2 plaid. The length of the rattan strand can dictate the

size of basket that can be achieved. Additional lengths of rattan can be used, but the attachment makes a bulky area in the weave and it is hard to manually control the area of the join.

When the sides have been finished a *ngeratung* strung base is used. Apparently the basket can be as big as the *ingen* if wished, but good quality rattan of the lengths required to make something this size are very hard to find. (See DVD)

**The Serut** - P, Lh - *ajat*, Kj - *bi'yuong* K.B. - *blanyat* L. B. K. - *ajat kayan*, L.B. - *uyut*  
(See appendix 6, MDB 01 Durham University Collection)

According to Chin (1980:69) the *serut* was originally a Penan design: 'which has been adopted and produced by the Kayan and Kenyah as well.'

Penan women are most definitely the most proficient makers of the *serut*, using the most variation in colour and design. Many *serut* are made for sale today, sold both locally and as far afield as the U.S.A. Other women, such as E'tin from the Badeng also make *serut* for sale, but sell to a much more localised buyer, E'tin's baskets can be personalised, with a name or saying around their top edge, with orders often coming from the logging camps where members of her family are working. Much of her rattan also comes from these camps, giving her a far more readily available supply than is usual in the area.

\*\*\*\*\*

The *serut* is made of strands of equal width varying from 1 mm for a very fine example to 2 mm. It is started from the top of the basket, where the *ulat* are placed. Like the *blanyat*, the number of *ulat* is dependent on the circumference of the mouth of the *serut* under manufacture. The *ulat* used often have a more complex weave than those used for rings or *blanyat*.

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When buying rattan the number of strands purchased is measured by the number of *ulat* around the top of a basket. If a 30 *ulat* basket is being made, the buyer asks for 30 *ulats* worth of rattan, therefore, as each *ulat* has four strands

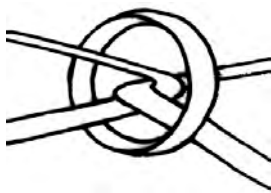
of rattan attached to it, 30 *ulats* worth of rattan translates into 120 strands. All fine rattan is bought in this manner. The time taken to make a *serut* is dependent on the number of *ulat* used.

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There are two ways of threading the strands through the *ulat* to begin the *serut* weave. This depends on how the rattan has been dyed and the competence of the maker:

(1) Where only half the length of rattan has been dyed four strands are threaded to their halfway point, making sure the same colour is on the same side, a method of manufacture only used by the most competent makers and is a measure of competence. *Serut* not made in this way are put into a rougher class of weaving and are not as financially rewarding.

(2) The second way to attach the *ulats* is where the whole length of the rattan strands have been dyed. It involves folding the strands in half and then looping two strands of different colours through each other. The two ends of the same colour are passed through the *ulat* until the loop where the two colours meet sits inside the *ulat*.



As can be seen the former method shows not only more proficiency in weaving, but also dying techniques.

Fig.10.7. The strands joining inside an *ulat*.

The strands are woven together in a 1/1 pattern until they are all held in place around the *ulat* (see fig.10.3). Once this has been carried out on all of the *ulat*, they are lined up next to each other ready to be woven using a 2/2 plaid weave, this has to be used as it keeps all the *ulat* in line and can produce a very fine close weave, which lies flat. As the rattan is partially dyed or dyed in two colours, the half that is in one colour forms one direction of the weave and the plain undyed rattan, or the other colour, forms the opposite direction, so that complex designs can be built up. Once all of the *ulat* have been attached the two



ends are brought together and woven into each other to form a circular shape.

The 2/2 weave is continued until a collar has been built up and all the strands in each direction have changed completely to a single colour (there being a muddying of colour around the area of the *ulat*). When this has occurred, the patterns and motifs are incorporated by altering the weave numbers, so that some strands start to pass over several of the opposing strands, and in other areas, only pass over one strand. The numbers typically only vary between one and five, as the weave becomes loose if more are passed over, in certain circumstances though up to eleven strands are passed over. The patterns vary considerably and are often designs taken from the peoples surroundings, for example: fish bones, ferns, birds, spears and knots. (see figs.5.1 - 55.)

The patterns are formed in bands running around the circumference of the basket, ultimately covering the entire surface area. The *serut* are some of the most highly decorated baskets made by the Orang Ulu. To keep the weave straight, a plank of wood is often placed inside the basket and the basket woven onto this. The rattan can be hammered into place with a *tapek* when necessary, using the wood as a support. If the weave is too stiff to do this the rattan is moistened first, to soften it.

If not enough strands are in place for a certain design, then more are added, this is described in the next section on *gawang*.

When the basket is high enough, the base edge is produced. First a strong thread is laid along the edge, each strand in one direction is passed over it and behind the next two strands running in the same direction; then folded at 90° so that it lies flat, diagonally to itself. (Care has to be taken in choosing a thread; as it must not be so hard that it will cut through the rattan, but must still be strong enough to take stress.)

The strands are then woven back into the weave following the pattern, as if producing a typical rim weave. In some cases the strands are cut off at this point to finish the weave. On many baskets the strands are folded back on themselves and travel back over the strand from which they have exited, locking this strand in place. The strands are then pushed under the next two woven strands before being cut. In one example I possess, made by Lucy at Lg. Main, the strands are folded at 90 degrees to themselves a second time and pushed back under the next set of weaves in the pattern and cut where they exit, this has produced an extremely strong, neat finish to the edge. The process is carried out with each and every strand in that direction until it is secure and has been cut. The opposing strands are left standing up and are trimmed off level with the edge. This method finishes the basket with a rim of one solid colour (usually black), which is folded inwards at a ninety degree angle by tightening the thread, to form a rim on to which the base can be attached.



Fig.10.8. Wrapping the coil to hold it together.

The base, *lotok serut* (K.B. - *abut*) is formed from a spiral of split rattan, over which a second strand of rattan has been worked by running it across two loops of the coil at a time (one of the loops will already have been worked once). The coil is worked from the centre to the outside edge.

When the rattan coil is the same diameter as the base of the *serut*, it is stitched to the inside of the rim, with a basic running or over stitch in rattan or string. Lucy from Lg. Main finishes her spiral base slightly larger than the hole, but not so big that it covers the entire area inside. Instead she makes up this area by forming waves around the final circumference with the core strand, the troughs of these waves touch the last coil. The fixing rattan continues as a wrap on the crests rather than passing around two coils, only making two coils where the rattan troughs to touch the outer edge of the base. This gives a petal effect to the base and is very attractive, others are beginning to follow this innovation.

Some bases have a whole rattan ring (with both ends tapered to form a lap joint) attached on the outside, this is tied into place. It is also known as *lotok serut* and is used to protect the base from wear.

Two loops (P. *kematak*, K.B. - *kisew*) are attached to the base of the *serut*, (most usually through the spiral weave, but some times onto the rattan ring) to hold the bottom ends of the straps (P. *veehay*) in place. The straps are joined by a piece of string threaded through their lower loops, (when used here, the string is called *kermitan* by the Penan).

A strip of rattan or bark string is passed through all the *ulat*, and it is to this that the top ends of the straps are attached. I found that only the Penan place two extra *ulat* here, one on either side of the basket, each woven through two of the original *ulat*, the string from the first *ulats* then passes through these, before joining the straps. The extra *ulat* act to prevent the string from pulling the original *ulat*, and causing stress on the weave when the basket is laden. I often saw old baskets made by the other groups with small tears in this area.

\*\*\*\*\*

Many of the groups attach a netted mesh to the top opening, which can be pulled closed to prevent the contents spilling out. Now the mesh is made of cotton, but previously it would have been made from bark string called *lawwa* by the Kenyah Badeng. I have however never seen the Penan use this netting on their *serut*.

\*\*\*\*\*

Kejaman will make this basket in a simple 2/2 plaid weave; covering both the inside and outside with fabric and beadwork (*enou*). This covering either comes up over the rattan *ulat*, or the *ulat* itself is formed from beadwork. The straps are made in the same way as used by other communities. A basket of this design can take as long as two months to complete.

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E'tin of the Badeng often uses *ay aya*, the sixteen strand strap on her baskets of

this type (see fig.4.26). Producing a very neat finish to the basket as they are thinner than many of the other straps made.

*The Gawang* - P., L.B. - *bai*. (See appendix 6, MDB 03 Durham University Collection).

This Penan basket is made for general use and is carried when people go to collect fruit; vegetables; wild plants; to visit other villages or for lighter loads of all descriptions. Made by women it is most frequently utilized by them, although both sexes do use it. Other groups such as the Kelabit and Baram river Kenyah living near to the Penan also use these baskets, but few make them, preferring to buy from the Penan.

The size varies according to the load to be carried, from approximately 12 cm to 60 cm. Depending on the size of the *gawang*, it takes one to two days to complete. They are predominantly woven with two colours and patterned, but the amount of colour and weave varies depending on the tastes and skills of the maker.

The basket is formed from a square shaped base seen on such objects as the *ingen*, using a 2/2 or 3/3 plaid with *mata*, this forms a *kutak* style weave. The colour where it exists is put in at the base level. When a check is used as the pattern several rows of each colour are put in, in each direction. Where the entire surface is of two or more colours, to build up a complex pattern, the strands are placed so that all of the same colour/s run in one direction, the second colour/s are placed in the other direction. The base is then woven as a square until the point at which the corners are turned.

After several rows of plain weave on the sides the pattern is built up, usually in bands. No extra strands are added to alter the shape, but occasionally they will be used to keep a design perfect, a number of strands may also be woven double to take out strands where necessary. This can only be carried out with a

few strands, otherwise the flat sides are altered in shape, forming bulges or concave areas, only the most proficient weavers can accomplish this. Where the correct number of strands for a particular design are not present, for those of moderate skill, a change in the design is made to keep a cohesive pattern (see pl.1.36), often though, unskilled makers leave designs unfinished or with areas of confusion.

When the sides are high enough the rim is then turned. The first direction of strands are folded at 90° and brought back through the weave to be cut off. The difference here is that when this is complete, the second row of strands is also brought over the top at 90° and woven back down through two weaves, these strands are then folded upwards over the last strand at the bottom of the rim and passed under the next strand (or two strands if the weave is a 3/3 plaid) of weave where they are also then cut. A simpler method is used by some people, where the strand only travels over two strands and under two, before being cut.

Loops, called *kematak* in Penan are placed to either side of the rim. From these, a rail called *jawan* is run around the top edge. The *jawan* is produced from a single strand looped through the *kematak* and back on itself. A second strand is wrapped round it and at intervals drops down to pierce the rim. Next it is brought back up to the rail, where a knot is positioned, thus, forming a strut before continuing to be wrapped around until another strut has to be placed. This continues in this fashion until it comes up against the other *kematak* and is repeated on the other side. Two further *kematak* are positioned on the edge of the base - *lotok*. The straps, *veehay*, are attached between the two sets of *kematak*.

### *The Kope* - K.B.

The *kope* is a bag that was made by the Badeng from Lg. Geng, and was used only by women, either in the manner of a handbag, or for the safe keeping of precious items. It is no longer in use and this was the first time Darie had ever

made one, although she had seen old *kope* when she was very young. No one could remember another being made for at least thirty five years. Some of the older generation had stories about them: Darie's mother Onyang had made one when she was thirteen, but never since and one neighbour had produced a *kope* many years ago, with the express purpose of keeping her gold teeth safe in it.

The *kope* is made from reasonably narrow strips of dried *sang*. The narrow ends of the leaf are laid side by side, with a slight overlap. A seam of running stitch is worked along the overlap. The number of leaves needed is dependent on size. For the bag Darie made an area of *sang* with a height of 25 cms, a length of 40 cms on the long side and 30 cms on the short side was produced.

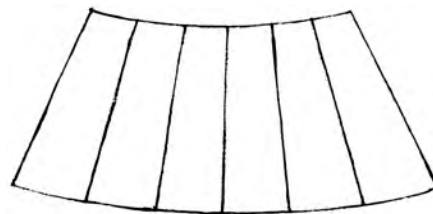


Fig.10.9. Positions of the *sang* leaves for sewing.

The area of the *sang* has to be big enough to form a pouch when folded in half. Two of these, the same size are made and laid on top of each other with the seams turned to the inside. A piece of fabric is cut to the same width as the *sang* and slightly longer, so that

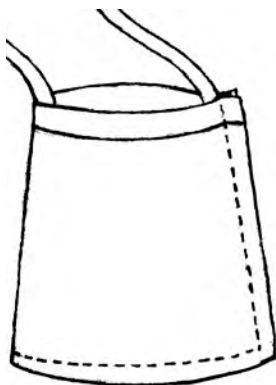


Fig.10.10. The shape of the completed bag.

it can fold over the narrow end of the *sang* forming a hem on the reverse side. The *sang* is folded in half, with the fabric innermost. The bottom wide edge and the open side are sewn up. Fabric bindings are then put over all three closed edges, either the same or contrasting to that on the inside and sewn into place. A long single shoulder strap is sewn to the top corners, this can be produced from fabric or a rattan plait.

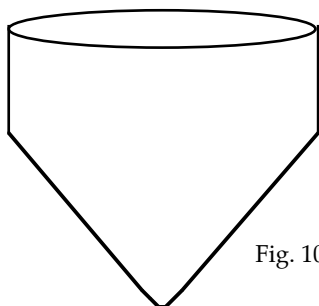
The outside of these bags was often heavily decorated according to personal taste but using many of the embellishments found on baby carriers.

## Purses

These are woven by the women for their own personal use. When they are not being used they are generally secreted somewhere, most frequently within the house, but on occasion they are kept in a rice store or another nearby place of safety.

### *The Berenya - P.*

The *berenya* is a small, flat, triangular base shaped container (approximately 7 cm high x 7 cm wide), with a matching lid fitted over the top, made in the same way as a single corner of the *barang* lid produced by Asong from Lg. Belaong (chapter 9).



It is woven in a 2/2 or 3/3 plaid, as a square. The size of the square is based on the required size of one of the two triangular sides.

Fig. 10.11. Shape of both the base and lid of a *berenya*.

Once a pointed pocket has been formed, two corners are turned and the sides are built up as straight sides, giving purchase for the lid.

The lid is woven in exactly the same way, either to the same size, causing the mouth of the base to pucker slightly when it is in place, or fractionally larger.

### *The Pihan - P.*

The *pihan* is a small rectangular purse with a lid. A diamond shape is produced in a 2/2 plaid weave. The length of this weave point to point, should be double the required height of the purse. Two opposing points of the diamond become the corners, by folding the woven area in half down the centre. To turn the corners the end strands (at the apex of the weave) are looped around each other, their new position allows them to continue their weave progress in the direction from which they have come. The next strands also link round each

other and continue to be woven back in the direction from which they have come. This forms the sides of the purse, but puts the weave pattern out of true. To right the pattern occasional single or triple weaves have to be incorporated.

The sides are woven to whatever height is wanted. To finish the bottom of the purse a rim is formed, made in the same way as most baskets, using a tight weave.

The lid is made exactly as the base, but often using four extra strands, if these strands are not added, the lid will still fit but the rim of the bottom will pucker slightly on the inside.

### **Variations on Traditional Designs**

Hybridization is not seen very often, but intermarriage, although not the only reason for variation, has brought some changes to these baskets. Where makers want to derive an income from their craft work, they have also made changes with potential saleability in mind, by keeping an eye on what is selling. Generally most makers prefer to produce modern, or 'new to them' styles of basket for sale. One of the few baskets I saw during this study that had mutated from a traditional black and neutral *serut* style, without the use of *ulat*, was found in a craftshop in Miri (see pl.10.34). The design on the example of the basket that I have is very traditional, showing knots and blades, *bukut nyip* (see fig.5.46./7.).

Unusually, the weave for this hybrid basket was made as a tube of 2/2 plaid. Once the tube was long enough to form the basket, a rim has been turned on the top edge. The strands however passed back through the weave, doubled back on themselves, and passed over a single strand, then under the next, where they had been cut off, giving a very neat and strong finish to the edge.



The strands that make up the base edge had been divided up, every other strand in each direction being pushed outwards and kept out the way. The remaining strands were then divided again. A rattan hoop with a diameter equal to that of the woven tube had been prepared, all of the strands in one direction pushed downwards, and the hoop positioned on top of these strands. The strands are lifted up through the inside of the ring to join the strands running in the opposite direction. All of these strands were woven as a 2/2 plaid, after a short distance they had been paired with their neighbour, and again woven as a 2/2 plaid using double strands, this had started to close the base. Finally the strands had come together to form the same pattern seen at the beginning of a 3/3 base with *mata* (see fig.4.15.), these strands had been woven into the weave from the opposite direction to secure them before they were cut off.

Next the remaining strands were woven in a 2/2 plaid, due to their reduced number, as the weave was pulled tight, the bottom had started to curve over the completed inner base. When approximately two centimetres of weave had been completed the edge was woven in the same way as the top, but this time the strands were folded over a strip of rattan and woven through the original weave until they reached the curve of the base where they were cut. Once this direction of strands had been completed, those strands lying in the opposite direction were cut off. The rattan strip had then been tightened to pull the base weave together making it flat. The ends of the rattan strip were knotted together holding it tight to complete the base.

The lid had been formed in a similar way to the base, from a tube of weave with a rim folded in at one end. Again the strands at the other end of the tube were divided and used to hold a rattan hoop in place. All these strands were finished in the manner described above. The remaining strands had been divided into their two colours, one colour was trimmed and folded to sit on top of the inner base. The remaining strands were woven in a 2/2 plaid across the

opening, each strand as an individual. After two weaves the position of the strands had to change slightly for the weave to continue in a plaid pattern, this was accomplished by turning four equidistant corners and using *mata*, changing the weave style from a tubular weave into a base weave. When each strand has travelled into the weave at the opposite side it was cut off, completing the lid.

Double strand loops (*kisew*) were attached to the base and the lid, for the attachment of a single strap. The strap was made using the same technique as shoulder straps. The lid and base were joined using this strap, preventing the two from becoming separated.

I have never tried to make this style of basket but from my study of it, this is the most complex woven object that I have seen made by an Orang Ulu, using techniques not found else where in their weaving, nor have I been able to find examples of these techniques being used by any of the other indigenous groups of Sarawak.

According to Lucia Asa (pers. com. 2003), a craft shop owner and Kenyah from the Upper Baram, who specialises in traditional locally made artefacts, four of these bags were brought to her for sale and although she did not know the maker, she was told that the maker was a Kenyah from the Upper Baram. These were the only examples she had ever seen. Speaking to Lucia again (2005), she has still not seen further examples of this basket and although she has searched extensively for the maker, she has been unsuccessful in finding her.

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Another variant based on traditional baskets is a handbag (see pl.10.38). I saw these bags on a visit to the Batu Bungan Penan at their village on the Sungai Melinau in Mulu National Park. This village is used as a stop for the tourist boats travelling from the park headquarters to the Wind and Clearwater caves, Clearwater is the largest cave system in South East Asia and so a very popular

tourist destination. The Penan sell their wares on mats spread on the ground near the jetty. It is very lucrative as all the boats stop here for around twenty minutes, predominantly for the tourists to make purchases. The Penan have adapted their traditional baskets into forms which they feel will bring in more revenue.

These handbags use the techniques found in the small *pihan* purses, but are made with larger dimensions. Thus their form has only two corners and so is flat in its aspect. Around the top rim a *jawan* rail from a *gawang* is added from which a handle can be secured, made either in the manner of a single shoulder strap or as a four strand weave (see fig.4.28./9.). The decoration on these bags remains traditional. I found a photograph of a similar bag to this, incorporating a triangular flap, rather than *jawan*, in an article by Hedda Morrison (1982:91). She said: '... of recent years they [the Penan] also make little flat pouches which are handy for carrying documents and gun licences and other pieces of paper which are so indispensable in the world today no matter where one lives' This passage again indicates that these bags are of modern design, recently introduced into the repertoire of the rattan weavers.

### **Modern Baskets**

There has been a surge in new style baskets with a shopping design. They are made in the plastic strip commonly used to secure cardboard boxes for transportation, the colours available are wide ranging, and there are several widths and gauges to choose from.

These baskets are formed in a traditional weave style; from a rectangular base with *mata*. Although the usual choice of weave for the baskets is a plaid, occasionally they are found in a plain weave. The norm is for them to be made in a single colour, sometimes with candy striped handles, one to each side; but they can be made of any number of the available colours. Many traditional

patterns where half dyed rattan would be used cannot be made as the plastic cannot be joined in the centre of the base.

When the available plastic is not of the width wanted, it is cut down. Once the end has been snipped to separate it into several narrower strands, it can be pulled apart. According to Selama Taie (pers. com. 2003), a Lun Bawang living in Lawas; this must be carried out in a back and forth motion to prevent the strands thinning. Thinning the gauge thickness can also be done, but is usually only carried out for the decorative elements. Selama states that for a typical sized shopping basket thirty strands are required prior to narrowing (a fairly typical strand width being about 15 mm in diameter). Each strand needs to be about six hand lengths long, with five hand lengths for the handles. If the strand lengths are found to be very short towards the end of manufacture, then pliers are often needed to help pull them through the weave. Any frayed or loose ends can be burnt off over a fire.

The sides usually have a pattern woven into them. These baskets, because they are made from plastic can have 90° angles folded into them to form corners. These folds do not drop out over time, instead remaining in position to produce the sides.

Rims on these baskets vary from the very plain, to those with decorative twisted strands. Two handles are positioned, one on either side of the basket. They are woven using two inner strands to act as a core, with four strands worked around them from the centre outwards to each end. These handles are usually pushed into a piece of transparent plastic tubing to give a comfortable grip. The strands stick out about 6 cms from either end of this tube, and are woven into the weave of the basket sides to hold them in place, their ends have to be folded back on themselves to stop them slipping back out.

Decoration of the baskets is usually found in the form of thinned plastic (a cut

being made in the plastic to about half its depth then peeled apart). It is put in over the weave and twisted, before going under the weave to come up again in its next position. Several colours are usually used for this.

Gadong a Kelabit living in Marudi sometimes picks out a pattern on the surface using enamel paint, which adheres well to the surface of the plastic. The sizes of the baskets vary, from those utilized as handbags to those used for a large amount of shopping or to carry things for brief visits away.

Although these baskets are usually produced in the villages for personal use some of the women who now live in the town are making micro-businesses out of this skill and are selling as far away as Singapore. Practised exponents in the manufacture of the baskets such as Gadong, can produce one large basket a night. It takes Selama Taie about three hours to produce a medium sized basket, whilst also working in her shop, simultaneously serving customers and entertaining friends. This shop serves as one of her outlets for the sale of these baskets.

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Lily a Penan living in Lg. Main carries out many experiments into modern designs using traditional materials, especially rattan. With these she makes many different shaped handbags, both with and without lids and catches. The catches are produced by her son Suliman, from large sections of rattan, *wai seka* is preferred, decorated with poker work. The size of these bags varies from evening bags to those used for shopping. Frequently, they are decorated with traditional designs and are coloured with natural dyes.

The biggest problem for Lily is transporting her baskets to a viable market, locals preferring to buy items such as *serut* from her.

TYPE OF OBJECT		MADE BY		FAMILY USE		FOR SALE
Plastic	Plant material	Male	Female	Male	Female	
Occasional	<i>Blanyat</i>	both		both		✓
	<i>Serut</i>		✓	occ.	✓	✓
	<i>Gawang</i>		✓	both		✓
	<i>Kope</i>		✓		✓	
	Purses		✓		✓	
Shopping baskets			✓		✓	✓

Fig.10.12. User/Maker table.

## PROTECTIVE CLOTHING

The climate in Sarawak is hot and humid with frequent rainstorms. There is little shade found in the gardens, farms and *padi* fields, so to protect themselves from these elements, the people of the Orang Ulu wear large hats against the sun and 'raincoats' against the many downpours. It is not necessary to wear any form of shading in the rainforest as the light is diffused by the time it reaches the forest floor. Generally rainwear is not used either, as it is seen as an encumbrance, but if a load being carried is particularly valuable or there is no real protection against the main force of the rain, a covering will be used.

The most basic form of protection against the rain and sun is a large leaf, such as those found on the banana plant. I have frequently seen people who have been caught by a sudden rainfall holding banana leaves over their heads. This was most apparent in villages where many of the gardens are situated close to the village.

On longer journeys people, myself included, usually decide to get wet, as keeping dry in my experience is impossible and any form of encumbrance acts to prevent one finding a firm footing on the very slippery ground, causing frequent and often dangerous falls.

These forms of protective covering are, for the most part made by the women of the family, the exception being the raincoat - *samit tukong* which is made by both men and women.

## Head Wear

**Sunhats** K.B., P., U.B., U.B.K., P.T., L.B.K. - *sa'ung*, Kl. - *ra'ong*, L.B. - *rong*, Kj., Sk. - *c'uong*, Lh. - *si'ng*

A form of sunhat is used by men and women in all the communities in Sarawak. It is not only used to keep the sun off, but doubles as an umbrella in wet weather. It is worn by both men and women whilst working; at the *ladang*, fishing and travelling in boats, as well as at the garden.

The width of the hat is very dependent on the job being carried out. If the work is out in the open, a wider hat is often used, as it gives more shade - i.e. for farm wear a *sa'ung amung* is worn by the Kenyah Badeng, which has very wide brim.

Sun hats from the different communities have certain points in common. They are all more or less conical, some also have a slight curve to them. On the inside, with the exception of some *rong*, they have a broad band, which holds the hat on to the head.

The *sa'ung* produced by the Kenyah Badeng and the Kenyah from Uma Bakah is made from a palm leaf called by them - *sang*. It is a long flat leaf, with a slight taper to it and longitudinal ribs. Two of these leaves are taken at a time and overlapped to the distance of the first rib (K.B. leaf rib/bone - *tulang*), it is then tacked into place, through this double thickness, to hold it.

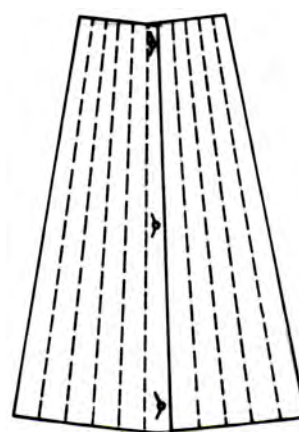


Fig.11.1 The attachment of two pieces of *sang*.



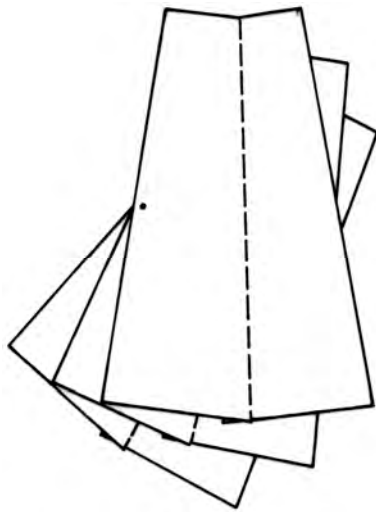


Fig.11.2. Initial stages of the fanning out process.

An even number of these pairs are required, either eight or ten, according to the Orang Ulu makers, an odd number would produce an imperfect circle. The leaf is doubled over to find its centre point and a needle is pushed through the *sang* at the edge, at this point. The other leaves are then placed on top of it, with the needle pushed through their edges also. A strong thread is attached to the needle.

The needle acts as a pivot and the leaves are fanned out through 360°, making sure that each leaf is opened out equally. This measurement is dependent on how conical the maker wants the hat, as the more the leaves are opened out, the flatter the hat becomes.

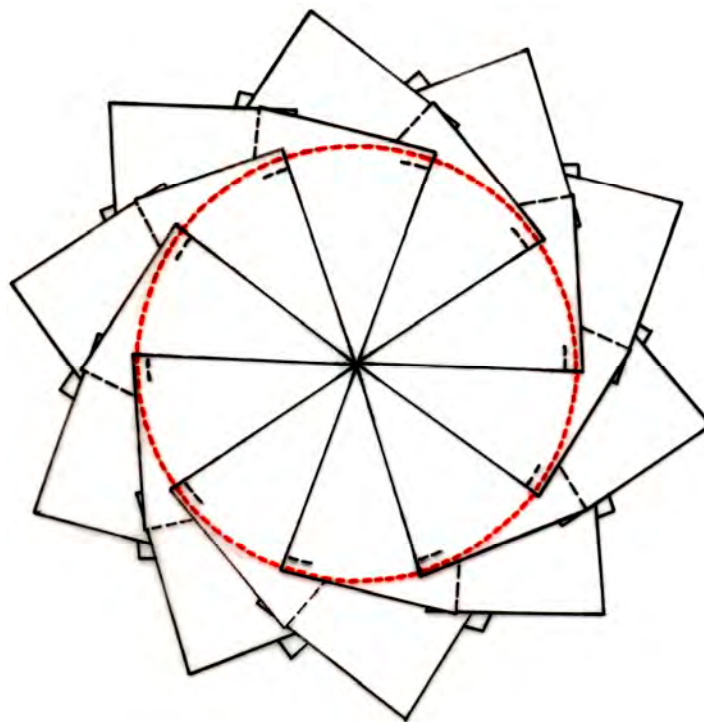


Fig.11.3. The *sang* leaves fully fanned out.

The edges of each *sang* is pinned down to the *sang* below. The pins - *law* are made from a wood called *tetuk sada*. The central needle is pulled through, with its thread and this is used as a compass to measure concentric rings for sewing by piercing the fabric through where a stitch is required. The thread - *tali*, for

sewing, is now of strong cotton, previously it would have been pineapple fibre. The stitches -*nyemelut*, are placed across every rib and each edge. They are small on the outside of the *sa'ung* and large on the inner surface. The circles of stitching are placed about 20-30 mm apart. When the stitching has covered the entire area of the required hat size the last row of stitches become a large running stitch. The edge is sew around twice, with the second set of running stitch filling in the gaps from the first. The excess *sang* is then cut away.

Many *sa'ung* are decorated and it is this that makes them differ from the plain ones, not the construction methods. For a decorative hat, a ring made of whole rattan, the same size as the outer circumference of the *sa'ung* is placed on its inner surface and using whip stitch - *tuk ulung* is sewn into place. Whereas, for an undecorated hat, the rattan is split into two lengthways and both pieces made into rings. One ring is placed inside and the other outside along the edge. The two rings are then stitched into place by passing a double stitch over the them and through the *sang* before proceeding along the edge, on the inside, to the next double stitch position, this continues around the entire circumference.

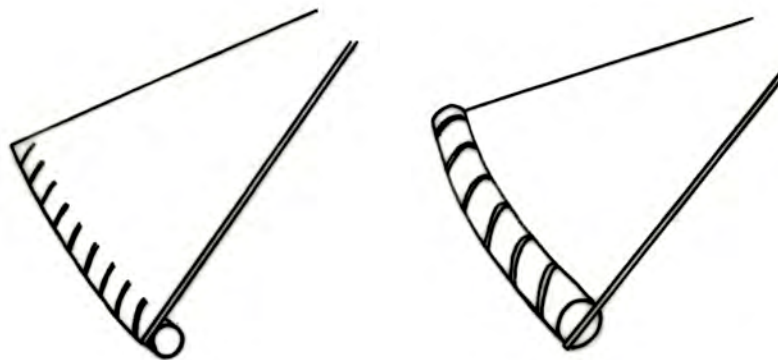


Fig.11.4. The two rim types used by the Kenyah Badeng & Uma Bakar Kenyah.

A circular band of diagonal 3/3 woven bamboo is next produced to keep the hat in place, when it is on the head. The bamboo is finely stripped, approximately 3 mm wide and the weave is started. It is woven in the same way as the weave found on a *tapan*, with each strand being woven from its centre, where it is diagonally folded, so the ends are woven at 90° to each other, forming an edge. This circlet is woven to a depth of about 110 mm, depending

on the size of the wearers head. It should be wide enough to sit firmly on the head, without cutting into the top of the ears. The circlet should also be big enough to fit comfortably around the head.

As the bamboo is folded back on itself to form the second edge, a thread is inserted, passing round the whole circumference. Once the circlet is complete, this is pulled tight, forcing the strands inwards slightly, giving a rim by which the circlet can be sewn to the inner surface of the *sa'ung*.

I frequently found the inner scull cap to be decorated by having fabric pulled over it and stitched into place, covering the entire surface of the bamboo. The *sa'ung amung* worn on the farm is often decorated with images of monsters, according to Darie Linchaw and her friends at Long Geng (pers. com. 2002).

The varieties of Badeng hat are: *sa'ung etak* - flattish; *sa'ung asak* - shallow cone shape; *sa'ung ucuk* - steep cone shape; *sa'ung asek loung* - everyday wear; *sa'ung aban* - decorated; *sa'ung amung* - large hat for farm wear.

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The Kejaman hats (*c'uong*) are similar to those of the Kenyah Badeng, being produced from *sang*, and using the same method. They differ in that the rattan edge for a plain *c'uong* is made from a quarter section of a thick piece of rattan, with the point of the section facing up the hat. A small diameter ring of whole rattan is then placed on the inner edge and the two sewn in place using a close whip stitch in heavy thread.

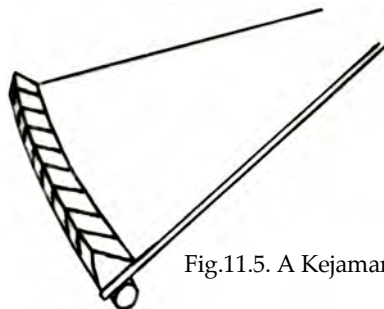


Fig.11.5. A Kejaman *ce'uong* rim.

The inner skull cap *udon c'uong* is made from *da'a* in a 2/2 diagonal weave. It is far larger than other forms, as it folds twice to shape. Where the top fold is placed, about 2 cms in, a thread is inserted to pull the crown to shape. The top edge is then folded outwards, and only one row of weave is cut off, the stray ends being left in position.

A second inward fold forms the rim of the cap about 4 cms from the top fold. Sometimes a decorative weave is used on the skull cap, this is visible on the inside. A fabric covering is sewn into place over the weave on the outside, one edge of which is held in place by a thin neatly stitched hem on the inner surface. The other edge of this fabric is covered by the upper fold and is tacked to hold it in place, it is covered by the uncut rattan ends, acting as a decorative fringe. The cap is stitched to the inside of the *sang*.

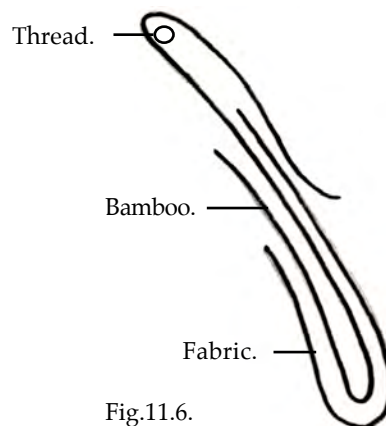


Fig.11.6.

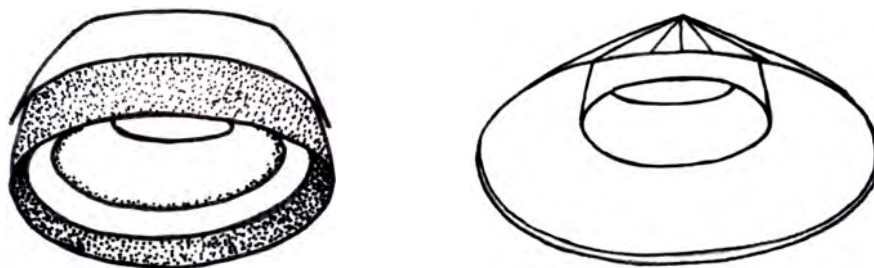


Fig.11.7. The skull cap and its position inside the sunhat.

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The Sekapan *ce'uong* is again made from *sang*, with a full rattan ring to the inside and a half rattan on the outside forming its edge. A hanging loop is attached to the edge. The decorative *ce'uong*, using fabric, beads (*e'now*) etc. are used for best, whereas the others, perhaps with a red rattan ring at most, are used as work wear. This red colouration would have been obtained from rattan fruit dye, but now more and more, they are being painted. The skull cap is woven from various materials.

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Decoration seen on the hats varies greatly, depending on the maker, each having their own preferred style. Variations include fabric appliqué over, either, the entire surface or just the central area. Embroidery, which in some cases is carried out on a fabric base and in others, is produced directly onto the surface of the *sang*. Often, for hats used on important occasions, a central rosette of beadwork - *aban/e'now*, will be fabricated. A second type of central rosette is woven from very fine rattan. Almost all decorated hats here will have a pom-pom or tassels of some description at their centre, to match the rest of the decorative work.

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According to Darie Linchaw, who is from the Kenyah Badeng; the Penan Talun in the Asap area, do not make their own *sa'ung*, but, in preference, purchase them from the local Kenyah and Kayan. Lahanan produce their sunhats - *si'ng* in the same manner as the Kenyah Badeng.

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The *sa'ung* worn by the Penan in the Upper Baram are made from the same leaf, which they also call *sang*. This *sa'ung* is shaped so that it is flat in the centre, curving toward the edges. The manufacturing methods are the same, but the leaves are spread out far enough to lie flat. The centre is stitched, with rings of stitching radiating away from the centre. Once the flat area has been made, the next few rings of stitches are tightened which starts to form the curve, subsequent rings make the curve greater. When the chosen size has been built up and the excess leaf cut off, a whole rattan ring is attached on the inside. A

split rattan, usually dyed black is attached to the outside edge (this split rattan is sometimes now replaced with a piece of plastic strip), by over stitching the two.

The inner skull cap is woven from bamboo, which they call *bulu* - bamboo. The caps vary in complexity from the very plain to those with a high level of woven decoration and with the rim turned back on itself to the outside. The cap is sometimes made on a pre-shaped form to help create the shape. Up to five strings can be found within the weave, depending on the height of the cap. The strings are tightened to create the shape curving in towards the top. When the skull cap has been stitched into place a piece of *sang* is cut to shape and covered in fabric and placed inside the skull cap, this is to give the cap a neat finish. It is necessary for the fabric covered circle of *sang* to be a tight fit, so that it remains in place. Decoration is very much a personal preference, but all have a loop of some material such as: rattan, string, plastic, attached to the side for hanging it up when it is not in use, this loop is called a *talem*.

\*\*\*\*\*

Upper Baram Kenyah make flat sunhats in the same way as the Badeng and Uma Bakar, they call flat hats *sa'ung ledak*, whereas the conical hats are known as *sa'ung ucuk*. Again these are made of *sang*, which they call *tapung da'a*.

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The Kelabit sunhat *ra'ong* (Janowski 2003:11), is again made in the same way, from *sang* called by the Kelabit - *elad*. When the leaves are spread out to the required shape, the leaves are pinned into place, using coconut spines - *dalin elat*. 36 leaves, doubled up, are used in all; extra inserts are put in around the edges to fill in the gaps where necessary, then sewn. Both types of sunhat are produced - the conical *ra'ong budok* and the flat *ra'ong belad*. A whole rattan ring is used on both the outside and inside of the rim. The inside skull cap is made of bamboo, some being more complex than others. They are again decorated and have a hanging loop.

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Some Kenyah, like Salalang, who is from Lg. Tungan but is now living at the

Kelabit village of Lg. Lellang, can also make a *sa'ung* using the second cut from bamboo, woven in a 2/2 plaid weave.

To make this *sa'ung* Salalang weaves a large square. The square is marked with the size of hat wanted and a ring of stitching is sewn into the rattan here, this hold the strands in position so the excess can be cut off safely, without the strands loosening. The stitching is pulled tight to curve the edges over, forming a curve. The centre remains flat.

Once the circle has been cut, a whole rattan ring, the same size as the woven rattan is produced, the ends of this are tapered and bound, holding them in place. The ring is placed on the inside edge of the hat, and either a piece of half rattan, or a strip of plastic placed on the outside edge; these are then stitched together through the woven rattan and over the edge, holding everything in place.

A skull cap is placed on the inside. It is made in the same manner as for the other sunhats. The usual material for this is second cut bamboo, but other materials can also be used. Like the Penan hats, a piece of *sang* covered in fabric is placed inside the skull cap and stitched in place. The outside is decorated in a manner similar to those belonging to other groups.

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Kejaman also weave *ce'uong* in a plaid weave, but it is carried out in the manner of the *ukak* mentioned in the next section, weaving in three directions to form a cone. Their chosen material for this style of hat is *bemban batu - bivan*.

\*\*\*\*\*

These types of hat are still very popular for both men and women of all ages, but are sometimes replaced now with baseball caps, which are by no means as useful.

The choice of pitch in the sides of the sunhat is a matter of choice according to

both Darie Linchaw at Uma Badeng and Sina Buad Aran of Lg. Lellang, but it would seem likely that in the rain those with a steep pitch would allow faster run off to occur. Dorothy Busak a Kelabit from Marudi (pers. com. 2003) states that if the *sang* is young it will naturally form a conical hat, but if it is more mature it forms a flat hat. This does mean that part of the choice between hats would be based on the maturity of the *sang* available.

\*\*\*\*\*

The sunhat worn by the Lun Bawang is called a *rong*. The initial, shallow conical shape is produced in the same manner as the *sa'ung* from *sang* (called *ilad*) stitched into place. From this point the manufacture differs.

Firstly eight thin pieces of bamboo are stitched to the outside of the *sang* form, running from rim to apex, these are used to strengthen the structure.

The root of a type of *Pandanus* - *basung* is removed from the tree (the roots protruding from the trunk rather than beneath the ground surface), the root skin is used, split after the pith is removed. The root is shaped by passing it through holes in a piece of metal to give it a round section (a *meru* or *meru basung*, used by the Lun Bawang, is the same as a form of *janggat* - see pl.3.25.) this process is carried out by the men. It is then passed to the women to construct the hat, the round *basung* lengths are coiled side by side around the hat and held in place by stitching. The coils start at the top of the hat and work down.

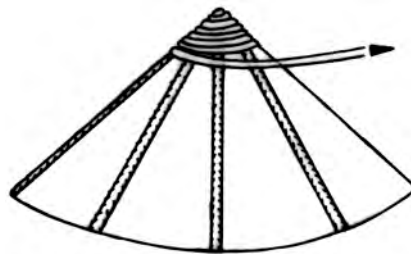


Fig.11.8. The winding seen on a Lun Bawang *rong*.

Where one strand runs out, the end is tapered with a knife, the same being done to the new piece, and the two overlapped to create a very neat join. Three



coils are positioned on the inner edge. The stitching - *derut eret* is carried out so that it produces a simple pattern. The thread is usually made from palm (low grade thread is from coconut fibre) these threads take natural dyes very well.

A single hoop of root is placed around the outside edge of the *rong*, held in place against first root wrap on the hat itself by split rattan ties worked around the circumference. The rattan tie is taken up and over the second and third wraps on the hat occasionally, passing though the entire structure of the hat before returning to the outer *basung* hoop, forming a ridged rim.

Usually a skull cap is not used in a *rong*, but when one is present, it is woven from pandan leaf.

Decoration is usually of a natural colour, or, where red and black are used; from paint or shop bought dye.

*Rong* are being used more and more as an item in interior decoration across Sarawak, although, still in practical use by the Lun Bawang. I have seen these hats being sold in the tourist shops of Kuching as decorative food covers.

***Decorative central elements for hats*** K.B. - *okek*, Kl. - *budok ra'ong*, L.B. - *budok rong*, Kj. - *ukak*.

These are the central, triangular rattan tassels, found on many sunhats. To make them, the first strand is initially folded in half, so that half of it is woven with its inner side upwards. A second strand crosses this strand, passing over one half of the first strand and under the other. It is then folded at 90°, to lie next to the first. The third is laid next to this and again folded up. The forth starts the 2/2 weave by passing over one, under two, over two and under one, before being folded next to the others. A triangular shape is slowly built up in this manner.

When a large enough triangle has been completed, the two central strands are crossed over and woven through the strands on the opposing side, the other strands then follow the same pattern, until it has formed the triangle size required.

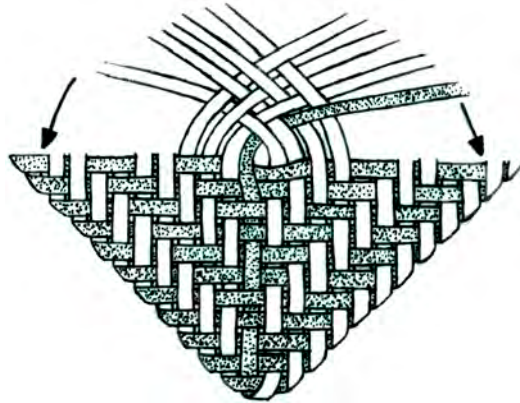


Fig.11.9. *Okek* weave.

The edge is finished by passing one set of strands, one by one, around their opposing strand, then being twisted on itself by 360°. It passes through the strand underneath and is folded back towards the edge to create a fringe.

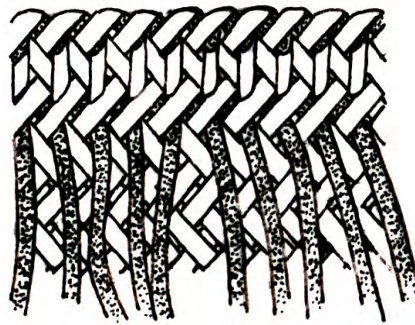


Fig.11.10. Tassel weave positions prior to being folded back towards the edge.

The rattan strands in other direction are bent back, to the inside and pushed through a hole, which is forced open through the very centre of the weave with a *sulat*, the strands pushed through the hole form a long tassel on the outside. Occasionally an *ulat* is placed over these tassel strands to keep them together. The *okek* is then sewn on to the apex of a sunhat. These decorative central attachments are also made from beads.

## Hats and Headbands

### Skull caps

*A Penan man's hat* - called by the Penan '*topi*', which is Malay for hat.

This hat found in the Upper Baram, is worn for important functions and ceremonial dances. It is generally woven in rattan, in black and white plaid, but can be more patterned and coloured if desired.

The weave is started from the rim edge, in a 2/2 or 3/3 paid weave and worked towards the apex; any pattern of weave can be used to form a design after the rim has been completed. The rim edge, once long enough to go around the head of the future wearer, is brought around and the ends woven in to each other to form a circular shape for the continuation of the weave. The rim is finished by folding the strands at right-angles to the the direction of the weave, around the two neighbouring strands and woven back into the weave. To prevent the rim chaffing both directions of strands can be pushed back into the weave before they are cut.

When the weave is high enough to form the crown of the hat, it is pulled in using a string placed against the weave. The back direction of strands are passed behind each of their next two opposing strands and folded at right-angles. They are next passed over the string and then pushed back into the completed weave, twice, the method used to form an edge. They are then folded back on themselves, passed over one strand and then under the next and cut off. The strands in the other direction are left long to form a tuft at the top of the hat. The string is pulled tight; pulling the weave in; forming the crown and tied securely. A piece of brightly coloured fabric is sewn over the edge rim for decoration, the stitches passing through the weave. The entire hat takes one to two days to make.

The tuft of strands was often further decorated by the addition of hornbill feathers or the skin of the clouded leopard (today these are both protected species, with very high penalties for those caught harming them. This decoration is, therefore no longer added) (pers. com. Catherine Lajo and Rebeka Nyato 2002).

Most older men still have one of these hats. These days they are mainly worn on special occasions, although some do still wear them more frequently, they are also worn by male dancers and musicians. *Topi* of this type can be seen being used as decoration by locals and are also sold as souvenirs.

*A Man's hat* K.B. - *tapung ucuk*, Kl. - *tapung delaih*, P. - *tapong lakei*, L.B. - *tupi'*, Sk. - *Lawong tepo'*. (Janowski refers to this hat as the *topi ulu* 2003:13)

Men belonging to most of the Orang Ulu communities wear this style of hat, although today mainly by the older generations; unless a celebration of music and dance is taking place.

This hat is usually made of rattan, but can also be seen made in pandan and bamboo taken from the second cut. It is manufactured, by women, in the same way as the skull caps, but is slightly higher in the crown.

A decorative woven edge is often incorporated into the hat by twisting the strands as they are threaded back through the weave many times to finish. Finally it is cut off, leaving each strand with a 2 cm end 2 sticking out as a decorative upright fringe.) This twisting is also seen on Uma Bakar *krien* fig. 6.4.). A patterned weave can be used for the main body of the hat.

Threads are passed through the weave around the circumference. The first thread is placed about 4 cms above the rim and they get closer together the nearer to the top they are, there are usually about 7 threads in all. These threads are pulled in, to shape the hat, only slightly at first but further up the

hat they are pulled tighter and tighter, until the hole left in the top has a diameter of less than 5 cms, and the hat has a very pronounced curve.

Further fringes are put in place as decoration. The main fringes stick out at the front and back. They are made by double strands being pushed through two of the upper weave strands, positioned so approximately 6 cms protrudes above and below the weave surface, because the strands used are doubled up, this gives a total of four strands to each section of fringe. The next two strands fit in through the next two weaves, this is continued until the fringe measures approximately eight to ten cms depending on the size of the hat. The procedure is repeated on the other side of the hat.

When both of the fringes have been completed, they are held in position by a thread folded in half and looped to either side of each set of four strands, crossed over and looped around the next set of four strands, this is continued until the end is reached and they are tied off.

Other small fringes are put in all the way around the circumference of the hat, in the manner I have described above. These fringe strands are positioned in a continuous line around the whole circumference. Any trimming necessary is carried out last.

Further decoration is often added using appliqué or embroidery. Lumholtz (1920:169/70) who travelled in Kalimantan between 1913 and 1917 describes these hats as being decorated with the feathers of the rhinoceros hornbill, like the decoration seen on the Penan *topi*.

**Headbands** K.B. - *tapung ujak*, Kl. - *senguluk*, L.B. - *tengelai uluh*,

Plain headbands are made to help keep long-hair out of women's eyes when they are working. Heavily decorated headbands, particularly those with beads

and hair tufts are used on ceremonial occasions or by dance troupes, worn as part of the traditional dress.

There are several styles of headband, the one seen most often, can be made from various materials, using the same methods found for the skull caps used inside sunhats, these are totally utilitarian in use.

\*\*\*\*\*

Another type, made by the Kenyah Badeng at Lg. Mejawah and elsewhere, contains up to forty fine strands, in black and undyed rattan. The first strand of the weave is twisted 360° and folded at right angles so that its position is across all the strands, it is then woven through them, forming the beginning of any pattern. The twist forms part of the edge and ensures that the outer surface of the rattan remains upper most. The second strand follows suit, turning 360° before being woven into place next to the first strand. This is carried out with all of the strands. The process is repeated from the beginning as many times as is necessary. A length long enough for the ends to reach around the head is built up.

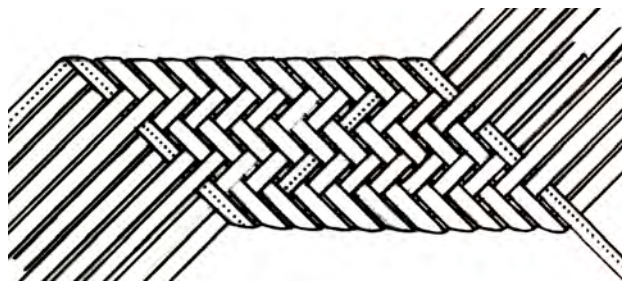


Fig.11.11. Lg. Mejawah headband.

The two ends are woven into each other to complete the band. The upper layer of strands is brought down through the weave following the pattern below for three rows. Then the ends are trimmed so they are all the same length and curled, using a blade.

\*\*\*\*\*

Heavily decorated headbands are made as above, but the strands used are thicker, forming a wider band. This is then covered in fabric, sewn in place and decorated according to tradition, taste and social status.

## Sun and Rain Protectors

### *The kelawak* - K.B.

A back protector for both sun and rain called the *kelawak* is produced by the Kenyah Badeng. It is made in various ways from a rectangle of plant material. It is large enough to reach from the nape of the neck to the upper thigh and across both shoulders, approximately 75 x 45 cms. One method is to weave a 2/2 plaid from rattan, bamboo or *tepo'*.

A second method is from dried *sang* leaves stitched together along the edges and down the centre, to form a rectangle of the size required.

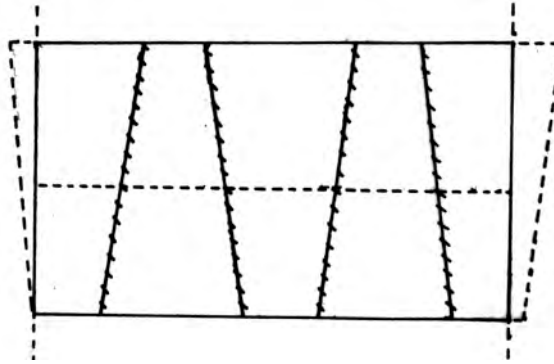


Fig.11.12. Joining positions for the *sang*.

The edges of the rectangle are covered in fabric to make them hard wearing. At a point approximately a third of the way down the rectangle, and halfway across the width, a piece of fabric is stitched, to which straps are attached.

The straps can be made of bark, rattan or fabric. They have to be long enough to reach the middle of the top edge, whilst allowing room for someone's shoulders to enter comfortably.

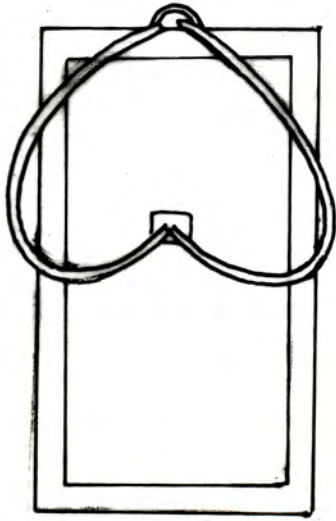


Fig.11.13. The inner surface of a *kelawak* showing the strap positions.

When worn in conjunction with a *sa'ung* the *kelawak* will keep someone completely dry when bending forward to carry out various tasks. It is also long enough to be sat upon, giving a clean, dry seat.

The *kelawak* produced by the Kenyah at Lg. Belaong is woven from *bidu*, second cut bamboo, lined with *sang*, which they call *tapung da'a*. The two pieces are then sewn together around the edge.

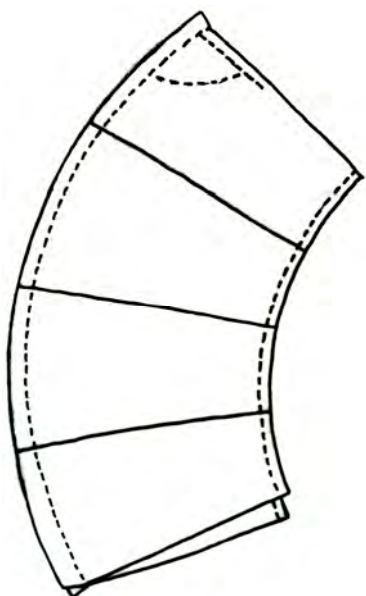
Recently, I have seen plastic sheeting applied to the inside of a *kelawak*, to add extra waterproofing.

**Raincoat** K.B., U.B.K. - *tengesang okong*, Kl. - *samit tukong*, L.B. - *samit*, Kj. - *saruong*

This raincoat is produced from *sang*. The narrow ends of the leaf are lined up next to each other, with the leaf edges overlapping, forming part of an arc. They are sewn together along the overlap. A strengthening line of sewing is also placed along the short edges of the *sang*. Two sets of *sang* leaves are prepared in this way, so they are the same.

The two sheets of *sang* are put one over the other and stitched together along the widest part of the leaf and part way across one edge to form the top. Where the two lines of stitching meet a further line of stitching is added in a curve cutting off the corner.





This curved stitching sits on the top of the head with the two leaf sections opened out on either side of the head and back. It is big enough to completely cover a full *ingen* or *buan*.

Fig.11.14. A *samt tukong* or raincoat.

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Although most people now also use umbrellas, these do not allow the hands to remain free and so are not useful when working or during periods of lightening. Waterproofs are also occasionally seen, but are hot and, therefore, uncomfortable in this climate, they are also expensive to buy. Both the *kelawak* and the *samt tukong* can be rolled easily and carried in a basket when not in use.

TYPE OF OBJECT	MADE BY		FAMILY USE		FOR SALE
	Male	Female	Male	Female	
Sunhats		✓	both		✓
Skull caps		✓	✓	occ.	
Headbands		✓		✓	
<i>Kelawak</i>		✓	both		
Raincoats	both		both		

Fig.11.14. User/Maker table.

## BABY CARRIERS

K.B., U.B., U.B.K. - *bak*, KJ. - *beneung*, Kl, P., L.B. - *agau*.

Baby carriers are used around the home, on the veranda and when taking the baby further afield. Whittier (1988:51), who has much experience of the baby carriers belonging to the Lepo Tau Kenyah, says:

‘The *ba*’ [*bak*] is used from birth until the child is two years old or more. For a long trip, such as that between village and fields, even a four-year-old may be carried in a *ba*’... The tiny infant may also be carried in front rather than the back a more convenient position for nursing.’

A baby carrier worn either on the back or the chest is held in place using woven straps, sometimes additional security is provided by a *sarung*, positioned around the back of the carrier, then brought around to the front of the wearer and tied.

A carrier comprises a small seat and a back rest, holding the baby securely in place. The mother’s hands are left free to work and the baby’s legs are positioned to either side of the wearer, piggy back style. If the child wishes to sleep he, or she, can easily do so by resting their head on the back of the wearer. Where a child requires comforting or calming they are placed into their *bak* and walked up and down with a slight sashay, the wearer is often found singing and rhythmically stamping their feet, (Whittier also notes actions similar to these in his work from 1988:54)

In many cases the baby carrier is highly decorated with beadwork, this is called *bak aban* by the Kenyah Badeng. Previously amongst the Kenyah these beadwork designs denoted the rank of the family, since the coming of Christianity it is said that anyone can use the various motifs. I have found that this is not always the case in reality and people are very clear as to which designs their social standing would allow.

Beadwork is not the only form of decoration found on the *bak*, many are made of decorative rattan weave, called *bak wai*. Often a few beads are also added, with bells or plastic tiger teeth, to act as a rattle for the baby.

**Type 1.** K.B. - *bak aban*, U.B.K. - *bak seling/aban* . P. - *agau talem*.

The first stage in making this type of carrier is to weave a back rest, this is crafted by the women using a 4 x 1 plain weave, from bamboo. It is woven flat, as a rectangle, but is a flexible enough weave to be bent into the curve of the back. Once it has been woven the excess bamboo is cut away.

The frame, which is three sided, is formed from a single piece of thick rattan, with a diameter of almost 2 cm, split longitudinally into two. One of these halves is attached to the outside of the woven rectangle, the other to the inside, with the corners turned 90° by notching the rattan. Several extra centimetres are left at either end of the frame, forming short legs. A strip of bamboo is positioned across the edge of the two pieces of rattan, to cover the raw edge of the weave.

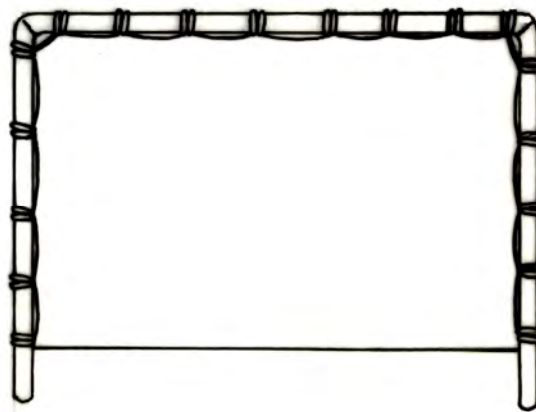


Fig.12.1. The woven back and its frame.

Everything is held in place by tying a thin piece of rattan across both sides of the frame in a double loop. This rattan pierces the weave, then travels along the frame a short distance. Repeating the process, it is carried out round the entire length of the three sides.

A fabric cover is made to fit over the back, covering both sides. It is formed from two rectangles, sewn together around three sides, leaving the fourth open. It is made to be a close fit for the outside of the frame and is put in place before the back is fitted onto the base.

The base is produced by the men, from a piece of wood with an approximate thickness of 1.5 cms, it has to be strong enough to bear the weight of a small child. The base is made slightly larger than the back of the baby carrier and is roughly a semicircle, with lobes on either side, by the straight, front edge. Two large holes are pierced through the wood half way across the width of these lobes, slightly in from the edge of the semicircle. The holes should be the same diameter as the small legs on the back of the *bak*, which fit into them. Smaller holes are also pierced all the way around the semicircular edge. Once the legs have been fitted into their holes any excess leg length is removed flush to the base. The back is sewn onto the base using the smaller holes and piercing through the weave and fabric cover. On some baby carriers small channels are gouged out on the underside of the wood between the holes, so that the thread is recessed into the base. These days the thread is usually fishing line, due to its strength, previously it would have been made from plant fibre.

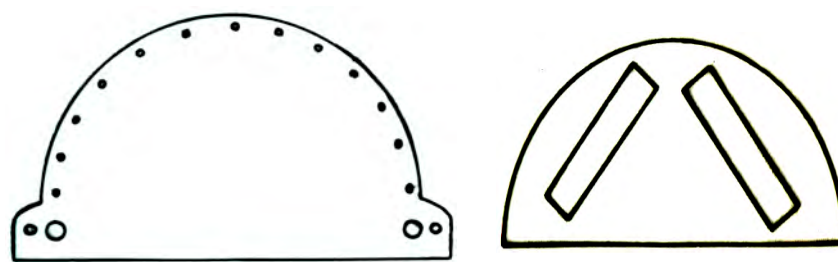
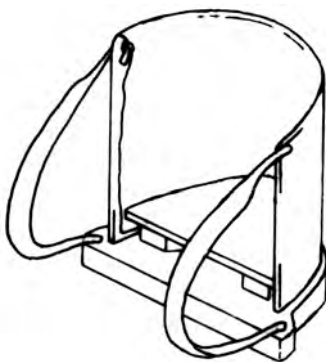


Fig.12.2. & 3. Baby carrier seats: The main seat with attachment holes and the secondary seat with leg positions.

A small seat - *adan* (K.B.), also made by the men, is fitted onto the base, but is not attached as it is kept in place by the back of the wearer. This *adan* is used when the child is small as it lifts the child up inside the carrier. It is removed as the child grows, allowing for a far greater usage time of the baby carrier. The small seat is again formed from a semicircle of wood, fitted to the inner shape

of the baby carrier. On its base are two low legs made from blocks of wood, approximately 2 cms high, 2 cms wide and long enough to reach from almost the front edge to the back when placed at right-angles to each other on the bottom of the seat (see fig.12.3). These are nailed into position from the top surface of the seat, so that, should the nails loosen and work their way out slightly, they will not scratch the child.

Two further holes are found pierced into the lobes of the base, these are for the addition of the straps. The straps are held in place by their tops being attached to the frame corners on the back of the carrier by a string passed through the weave and fabric, the top loop of the strap is attached to this by tying. A rope is tied to one of the bottom loops of the strap, then through a hole. The rope passes along the under side of the base and up through the other hole where it is attached to the bottom loop of the second strap, leaving some slack in the rope.



A fabric flap - *pin* (K.B.) is attached to the top edge of the baby carrier by sewing, this reaches from one side to the other and down to the base, its main use is to hide the stitching from the attachment of outer decorative ornament.

Fig.12.4. A baby carrier showing the secondary seat and flap in place.

Decoration takes many forms, including braid, coins, appliqué, patchwork, tiger teeth (now fake), bells, but in almost every case an area of *aban* work (beadwork) is found, hence the Badeng name of the carrier. This bead work can take several months to complete.

Although previously the bead motif<sup>25</sup> would have denoted the status of the

<sup>25</sup> For further information on the meanings of the various motifs see Chapter 5. & Whittier H. Social Organization and Symbols of Social Differentiation - 1973:190 - 218 & Whittier H & P. Expedition vol. 30 no.1 - 1988: 51 - 58.

family. The rest of the decoration is the personal choice of the mother/maker of the carrier, usually one and the same person.

‘Shells, beads and animal’s teeth, often loosely attached to the “ba” to make a rattling sound, are to frighten evil spirits away.’(Sarawak Museum 1984:13), because of this belief almost all *bak* will incorporate this element.

Some decorative elements found on the *bak aban* are now plastic. An eye catching appearance is one of the most important aspects within the design. The seed beads continue to be made from glass and are purchased in the towns. The motifs remain traditional and the structure of the carrier is still formed from natural materials, but ties are now often formed from plastic strip.

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The Lun Bawang *agau* is made in the same way as those made by the Kenyah Badeng, but is not as highly decorated. Upper Baram Kenyah also make baby carriers in this manner, if it is a plain bamboo carrier then they call it *bak seling*, but when beaded it is *bak aban*. The Kejaman and Penan also make baby carriers in this way, taking them about a month to complete.

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One style of Kelabit baby carrier has it’s back woven in the hexagonal /hexangle weave more usually seen on *kelung gai* or *belalung la’al*. Otherwise it is fabricated as the others, including the decoration.

**Type 2.** K.B. - *bak wai*, P. - *agau wei*.

Made by the women, the back rest of this style of baby carrier is produced from many rods of rattan. The outer skin is discarded and shaped into lathes approximately 1 x 3 mm, by using a tin lid *janggal* so that they are of an identical thickness, they are then laid parallel to each other with their wider faces together.

A single strip of rattan is wrapped around two of these rattan rods, with a space between each wrap large enough to accommodate a second wrap attaching the

third rod. In this way the whole back is built up. Each successive wrap starts from the opposite end to the previous one, causing the wraps to lean first in one direction and then in the other, interlocking with the previous strand.

From time to time the colour of the rattan changes to black for several wraps, forming a striped design.

This entire back panel is flexible and can be bent to form a curve for the back, this curve is more acute towards the bottom. The frame of rattan, used to attach the back to the weave, is held in place by a very close, tight, rattan knot-work system all the way around the sides and across the top.

The bottom edge of the back has three extra pieces of rattan attached in the same manner as the rims found on *ingen*. These rattan are held in place with ties which are also pushed in and out of the holes bored into the edge of the base to hold everything in place. The base is made in the same way as the one found on the *bak aban* above.

***Type 3. P. - Tergalau.***

This traditional Penan baby carrier takes 1 - 2 days to make. The seat - *kaket*, is made in the same way as the other styles, with flanges at either side and with holes bored around the edge.

A piece of sago bark is cut to fit the outer curve of the seat, it has a height of approximately 30 cms, the top 5 cms are turned down and stitched to the rest of the back, in a basic back stitch, this gives extra strength in this area.

The back is placed around the seat, with the sago bark slightly overhanging the level of the seat. The bark is stitched, using rattan, to the base by passing rattan through the bark, where it is level with the top of the holes bored into the seat. It is then passed through the sago bark again from underneath the seat,

working around the edge in a cross stitch motion.

Whole rattan is bent to form interlocking loops - *kematak*, three quarters the height of the back, and equal in width to it. These rattan loops are tied on to the outside of the baby carrier and run through the cross stitch in some places. Further stitches are placed across the top of each loop into the sago bark, to give extra strength to the structure. Extra strengthening rattans are placed horizontally across the loops, running from one side edge to the other, these are bound into position and hold all the elements securely.

The decoration on a *tergalau* usually consists of pairs of snail shells and very large beans which are drilled and hung on to the back of the baby carrier using bark string. They keep the baby happy with their constant jangling from movement. A secondary seat is again be found on the inside, depending on whether the child is small enough to need it.

The consensus among the Penan I spoke with, seems to be that this type of baby carrier is preferential to the *agau* as it is a better shape for constant use. Although for all this, the *tergalau* has, to a large extent been out moded in favour of the *agau wei*. *Tergalau* are made by Penan who still living a nomadic way of life, thus they have have access to sago in their day to day work. The raw materials are not as available for those Penan who have chosen to become settled.

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I discovered that for all the groups I visited during my research, almost every first child continues to have a baby carrier made for them, but in some cases they are then shared with younger siblings, whereas others will have a new carrier made. These are then kept by the family and hung up in the house as an heirloom for the child. It is rare to find a used baby carrier for sale in any of the antique or souvenir shops, although now some are seen, made specifically for sale.



I saw many small scale baby carriers for dolls made by the women for their children (see pl.9.52). These are often decorated by the child, so that they are involved in the manufacturing process and learn the techniques.

BABY CARRIERS		MADE BY:	
Component	Material	Male	Female
Seat Back	Other Plant Material		√
Back Frame	Whole rattan	Both	
Seat	Wood	√	
Booster Seat	Wood	√	
Straps	Other Plant Material		√
Decoration	Various		√

fig.12.5. Table of Maker Tasks.

## CONCLUSION

‘And these changes have been wrought, not because any inherent technical ability has demanded them, but because his desire has created that technical ability. Physiological man does not require this paraphernalia to exist, but the whole man does.’ (Steinbeck & Ricketts 1941: 90)

Works, such as *Made in Niugini* (Sillitoe 1988), along with others (Blackwood 1950, Hitchcock 1985, Kooijman 1988, VanStone 1989, MacKenzie 1991, Schlick 1994, Kwa’ioloa & Burt 2001, Chibnik 2003) show how we can go far beyond Hodges important work *Artefacts*, which gives us an indispensable basic overview of many and various technological processes. By situating technology within a wider cultural context, as shown by these diverse authors, we get a deeper appreciation of the subject. Such works support the approaches I have used to document the technology of the Orang Ulu.

I have learnt to make all the objects described in this thesis, which, I can now make unaided (Pl: 13.1-13.9. show some of the objects I have manufactured).

### **Functionalism:**

Almost 90 years ago Frazer prefaced *Argonauts of the Western Pacific*, Malinowski’s work providing a basis for functionalism, with these words:

‘That material foundation, consisting of the necessity of food and to a certain degree of warmth and shelter from the elements, forms the economic or industrial basis and prime condition of human life. If anthropologists have hitherto unduly neglected it, we may suppose that it was rather because they were attracted to the higher side of man’s nature than because they deliberately ignored and undervalued the importance of the lower.’ (1932 [1922]: viii).

More recently, Tilley said ‘We need to further investigate the banal and the everyday as well as the extraordinary.’ (2006: 70). However, little research is carried out on Frazer’s ‘lower’ issues. Concentrating on ‘material foundations’ I have addressed the methods used by the Orang Ulu to meet their basic needs. Looking at the material assemblages, including baskets and other objects, required for food production at the farm, garden, forest, river and its

preparation in the home. I also studied methods of producing protective clothing for shelter, together with items which make life more comfortable such as mats and hammocks. These functional needs are the most basic 'building blocks' for life.

### **Structuralism:**

By putting the objects into cultural context and looking at the systems of subsistence for the Orang Ulu, I found I could grade the different objects, based on a combination of decoration, material, technique and use. Miller writes 'At least one major paradigm in anthropology, that of structuralism, has made the ordering of things central to its understanding of human culture.' (1994: 401). Here, I show how these grades or classes are defined and what they contain. This is symbolic, showing how utility objects take various positions within these societies. Things move away from being purely functional into different social spheres. As can be seen, the items in the lowest grade or class are missing one structural element, that of decoration. The more decoration an object has, the larger its role in social contexts, as a commodity, as a gift, through symbolism or as an identity marker, helping to produce a combination of cultural building blocks. Structuralism does not take in to account variations between individuals, but it is often through personal traits or independent motivation that objects move from one class to another.

The lowest grade of object contains items which are seen as purely functional, with little biography other than manufacture and function. The open weave *blanyat* (small basket) used in rough work, has an expandable weave allowing different sized loads to be carried. The weave, in some *blanyat*, can change, breaking up an otherwise unadorned surface, but without patterning. It is used for collecting small objects in the rainforest, or when fishing (as it allows easy drainage). A *blanyat* needs the strength imparted by rougher, thicker rattan and is usually larger than the *serut*. A *keba* (rucksack) is used to carry large objects, and for hard physical usage. The open, looped weave structure and the whole

rattan used, do not allow for patterning, except for occasional simple zigzags on the back panel. Fruit collecting baskets such as the *kelung gai* and *keratang* are again unadorned, made from an open hexagonal weave, this lack of pattern is also seen with fish traps, amongst other things. These objects are made by men and women, often the user or one of the family, and are not for sale. All Orang Ulu groups make them, but there are regional variations in the popularity of comparative designs. Manufacturing concentrates on making them fit their purpose: heavy work. These objects usually do not contain any signifiers, symbolism or markers for the group to whom they belong, only the work they do. They are often stored away in rice sheds and on back verandas and are not kept after their use life has finished.

The second class of baskets, mainly used in rice production, also have little or no decoration. Again subject to much wear, they are made as strong as possible (those baskets used for wet padi are waterproofed). All the objects in this grade are made using wide strands of heavy duty rattan or other materials, in a close weave to protect the grain. This grade includes seed and harvest baskets, winnowing equipment, drying mats and household items found in and around the kitchen, such as the *ah'ap* (for cooked rice). On *ingen*, used to carry and store harvested rice, the Kejaman Lasah and the Punan Bah use an all over weave (such as that seen in in Figs.4.7 & 8). Others use simple horizontal stripes around the rim, or a check, and the Penan Talun colour the legs. These small details can identify the makers ethnic group or village. Decoration is the choice of the maker, and most choose not to apply any. (the only patterning I saw on these baskets was on *buan budok* - harvesting baskets, which are no longer produced). This class of objects is seen more frequently, as they are used around the village as well as farm, are often stored in kitchens and are sold locally, giving them higher status. Farming rice is the most important subsistence task for swidden farmers, giving these objects greater value, they are made by women.

Exceptions to this grade are those *tayen* (harvesting baskets) belonging to the Lun Bawang, given as gifts, by both families, to the bride and groom on their wedding day, helping them start married life. These are highly decorated with the weave strands painted in very bright colours for celebration. These *tayen* have acquired new status through decoration because they have taken on a secondary role as a gift and part of the betrothal ceremony, moving them, away from pure functionality, into the third grade. The small *tapan* made for sale to tourists have complex patterning too, as they have become saleable commodities, again raising their grade, following Kopytoff's point 'Not only is every individual's or network's version of exchange spheres idiosyncratic and different from those of others, but it also shifts contextually and biographically as the originators' perspectives, affiliations and interests shift.' (1986: 78/9) he continues, 'by merging the previously distinct exchange spheres... the most noticeable change has been, quite simply, to make the rules less clear and open to individual interpretations and to idiosyncratic systems of values.' (*ibid*: 79)

Again made by women, the third class comprises those items which have highly patterned and often colourful weave but do not have symbolic imagery. These objects, frequently offered to guests, sold to tourists and gifted to important visitors, include *serut* and *gawang* (small baskets), sleeping mats, *sireh* (betel nut and lime) and tobacco boxes, *ti'in* (fruit bowls), some trays, small mats and sunhats with fabric decoration. Certain design features may be present which can identify the object as belonging to a particular group or maker, but is not always the case. Some designs will be found on objects belonging to several groups, especially when sold locally.

When I asked Saloma Jallong about items given as gifts she said that 'they are very expensive, beautiful and can last longer.' Certainly these items are usually the most elaborately decorated, whether they are being given, sold or for personal use. They take a long time to manufacture, using fine rattan, showing the guest how valued their visit has been. They can earn significantly more as a

commodity than objects used on the farm. Not used for rough work, they potentially have a long life, even though the strands are not as strong. Orang Ulu also use *serut* and *gawang* when visiting outside their community for carrying their personal belongings.

The highest utility object category, comprises beaded objects such as sunhats and baby carriers. The beadwork and other decoration is often symbolic or protective, they adorn the home, becoming heirlooms. It is this final class which has the largest biographies (see Symbolism and Biography). Above this class objects stop being utility, and have much more complex lives as part of ritual, religion and art.

Classification here, relates to the manufacturing method (looping, binding and open weaves forming the lowest level; beading the highest) and the extent of decoration the utility object exhibits in reference to its purpose. This is symbolic of the roles the objects play in society and relates to Küchler's observations 'To produce society, people use objects in different ways and for different purposes; in every society at every time, there must be certain objects that are given, others that are sold or bartered, and still others that are kept for good.' (2006:327).

These classes of artefact follow a similar pattern to those of the women weavers of Ambae, researched by Bolton 'where objects fall in to recognised categories, it is tempting to look for a degree of order and consistency in the principles by which the categories are established.' (2003: 116). The author goes on to say that she found inconsistencies in the classes. This is also true in the *Ulu*, as makers exert complete choice over the decoration, and can, if they wish, decorate the lowest categories of object. The fact that such a classification is possible on the basis of technology and design proves that such 'lowly' functional objects have various levels of complexity.

### **Tacit Knowledge:**

The manufacture of objects used in the *Ulu* is based on tacit rather than explicit knowledge. Ellen (2009), researching with the Nuaulu of Seram, Indonesia, found that if the groups of baskets they used were arranged to show their technical and functional overlap, the overlap is considerable and 'relates to core basket-making knowledge and is significant in that if one type of object were to disappear it would diminish the body of shared techniques for making other types of basket, weakening the chances of their survival too.' (2009: 261). The Kelabit, *kelung* (open weave heavy basket) with no weaving in common with other baskets, may have recently become extinct, in the way Ellen discusses, but his statement falls down when we take persons such as Salalang into account. While there are skilled manufacturers who have an embodied knowledge of techniques, some baskets may be rescued from the brink.

The techniques used to manufacture the *kope* (handbag) feature in objects such as the *kelawak* and *tengesang okong* (raincoats) and so could still be manufactured; whereas, although the 'constellations of manufacture' (Wynn 1994) are still known for the Kelabit *buan budok* (harvesting basket), no one knows how they fit together to produce the object any more. Salalang is experimenting to bring the 'strings of beads' (*ibid*) for these 'constellations' back together to reproduce this object. Her work is based on an intense interest in techniques of manufacture and expanding her repertoire.

These examples show that where objects remain to be studied, people with embodied knowledge of manufacturing can in fact relearn techniques thought to be lost. This is achieved through copying, experimentation and drawing on experience, often through ways other than the apprentice model, but assuming prior tacit knowledge gained through apprenticeship and practice. It follows that by using known 'constellations', artisans can use the written word, photography and diagrams to manufacture objects showing the value of such books as Hodges (1964) *Artefacts* to those with enough skill in technology to be

able to read them.

Through manipulating materials, I gained a sensory knowledge of them. Handling materials gives an assortment of information to makers, letting them know when a strand is going to split, or requires wetting to keep it supple. The handler can feel weaknesses in the material and assess how much strength is needed to turn a corner tightly. They know where minute changes in strand thickness or width occur, and where shaving is needed; therefore, assessing material quality. This tactile information maintains the standard of the objects. Such information is frequently over looked, but adds to the 'powerful procedure of discovery' which Ingold discussed (2007: 3).

Touch is not the only sense used, the obvious one is sight; but some materials have distinct smells, *tepo'* (*Hornstedtia scyphifera*) is very pungent when fresh, taking many months to fade. Smell helps identify it from other materials in a finished object. Certain processes make particular sounds. Such information is rarely noted and can only be found through contact with the material. Tacit knowledge, then, is not only cerebral but truly embodied through our senses. Such sensory values are often integrated into modern design. The way the interior of a car smells (such as new leather), along with tactile elements (the feel of the steering wheel), have major selling roles and are introduced into the design process. Tacit knowledge and sensory perception are elements of materiality, which cannot be understood from an intellectual perspective unless they have first been experienced. It is an adjunct in which little research has been carried out, but has been gaining ground since the early 1990's (MacGregor 1999, Classen 2005, Howes 2006, Hurcombe 2007).

**Transmission** of tacit knowledge is an integral part of the learning process. Not only for the people of these communities but also for any researcher studying technology (requiring prolonged fieldwork), if an in-depth understanding of the principles involved in skill is to be acquired. It is no easy task to learn all the



'constellations', needing continued practice, honing skills until they become embodied, in the manner of the knowledge held by the groups studied.

Sigaut said 'Teaching and learning now are nearly universally understood as *formal* teaching and learning, and their object is equally understood to be 'knowledge' and nothing else.' (1993: 112). But skill is also knowledge, though for many it is not seen as such, or necessarily valued to the same degree. Even in technical schools, skills cannot be taught in a formal manner without practice. Apprenticeship is employed across the *Ulu* area for the transmission of all practical skills. This knowledge is highly valued as it is the means by which people produce most of the tools they need and as a way to earn money.

Tacit and explicit knowledge, formal and informal learning, give a structuralist duality to the differing types of learning process (Hildreth & Kimble 2002), both are found in the *Ulu*, explicit knowledge gained in schools and tacit knowledge, at home.

The production of utility objects is mostly undertaken in public, on the veranda or by the river bank. Men and women may sit together working on baskets, beading, fish traps and netting. Anyone with nothing to do may help out without comment as they chat. This is in direct opposition to the women of Ambae 'By expressing an interest in textiles we were drawn in to contexts that belonged, almost exclusively, to women... Even when sitting in the same place, men and women keep apart.' (Bolton 2003:106). In the *Ulu*, working together has allowed men and women to learn from each other, giving crossover to the knowledge they possess, rather than creating prohibitions in work.

Smith (2003) said 'Many of the ways we have of talking about learning and education are based on the assumption that learning is something that individuals do. Furthermore, we often assume that learning...' quoting Wenger (1998: 3) 'has a beginning and an end; that it is the result of teaching.' In the *Ulu*

learning can be seen as situated learning, as a community placed action, called by Lave & Wenger a 'community of practice'. Here the community of practice is 'very fluid and informal' (Smith 2003) participants coming and going as they wish. 'Initially people have to join the communities and learn at the periphery. As they become more competent they move to the 'centre' of the particular community. Learning is, thus, not seen as the acquisition of knowledge by individuals so much as a process of *social* participation.' (Smith 2003). This was my experience and that of children in the *Ulu*, we were slowly being drawn into the centre of things by our learning. If a person in the group forgets a 'technical constellation', or a part of it, someone is always on hand to act as a prompt. Learning and practice is an ongoing process as new techniques emerge and old ones are again brought to the fore. It can be seen that this method of learning has been in place historically and has a bearing on identity formation and cohesion across the *Ulu*. It has also allowed the continuance of skill learning for all those wishing to partake.

Children sit with the group or play around it. They gain their initial knowledge of tasks as Tilley's 'original participant observer[s]' (2006: 62). They are rarely shooed away and whenever they show an interest in a particular aspect of production they are shown it fully and allowed to copy the procedure. Slowly they learn the different 'constellations', by being given the material means to try for themselves, when they feel ready, rather than in a formal way where they are made to learn. Bolton observes of the girls on Ambae 'They learn from their mothers, grandmothers, and other women resident in the hamlet. How much they learn depends on their individual interest. A girl who wants to learn will sit and observe skilled plaiters and imitate them. She may even find a textile she wants to be able to make and take it apart to see how it is constructed.' (2003: 116). Older children learn more technical 'constellations', but learning does not stop at maturity.

Learning is also accomplished through play (as in Montessori education

techniques) and many 'toys' given to the children serve a learning purpose as they are the objects used daily by adults, like the *keba* given to Rose as a school bag, the small *bah* (baby carrier) for Oyang's dolls or Leh's paddle and wooden *parang* (machete).

Some blacksmiths, although few, may guard their knowledge of blacksmithing, but as manufacture is a social activity carried out in the open with no perceived heightening of status, it seems unlikely. Hurcombe notes 'knowledge is passed on deliberately and may be guarded to maintain exclusivity.' (2000: 101) as one way that specializations are built. Asang Lawai does not guard his knowledge in this way but there is no interest from others to learn at the moment. This is in part due to the time learning such a process involves, combined with the time it takes to make these objects and the ease with which knives can be purchased in local sales.

Not everyone wants to learn all the manufacturing skills, some will choose only a few, others will decide not to learn any, as they have no interest. In Ambae, Bolton (2003: 117) found 'some women are more interested in plaiting than others; they take the time and trouble to learn how to plait more complex designs.' I found that the best manufacturers had a genuine interest in learning and experimenting to expand their knowledge. People are not pushed into learning manufacturing skills, as today many objects can be purchased, if necessary.

Acquiring these skills is not an option for some. Manual dexterity is a major part of manufacture and some do not possess it. In the *Ulu* each person's capabilities are taken into account, in the tasks they choose, or are allotted within the family and community. Some people cannot, for instance, weave baskets and so will obtain them from others, their talents lying elsewhere. Most people have some kind of talent which they can exploit, making exchange possible. Ellen points out that a community of practice 'recognises that some

individuals are more engaged than others, and that there will be some degree of internal functional specialization. Thus, while all adult weavers undertake their own dyeing, and many collect their own dye plants and bamboo, not all do so.' (2009: 270). Sillitoe comments 'In everyday life persons are nowhere, strictly speaking, equal because they vary in their talents, and those with culturally valued abilities will achieve socially respected positions,' (1985: 518). When I asked Saloma Jallong (pers. com. 2006) whether makers of an object are also the users, her reply was: 'Not necessarily. Some users might not have the skill or knowledge to make the object.' The fact remains, that all people within the *Ulu* are allowed to learn and practice the skills they wish, within a framework of community support, without prohibition.

Transmission of tacit knowledge is also being encouraged by the state government as a way to create micro-industries in the *Ulu*, providing an income for some people. According to Beatrice Kedoh Tajang (pers. com. 2004), the Marketing Executive of the Sarawak Crafts Council (S.C.C.) it meets these aims through human resources development: home training youngsters interested in craft production. Veteran craftsmen are identified through word of mouth and given a monthly income of R.M. 300 (Ringitt Malaysia), for which they teach their skills to those, with an interest, living in rural areas. Again they teach in 'communities of learning' using 'constellations' to build up processes.

It is this apprenticeship experience that has given me the ability to illustrate methods I learnt, and which have become tacit knowledge. By knowing the 'constellations' and their combinations, I can constantly check the details of each process (by doing them), as I describe the techniques. This would not have been possible, had I received information on manufacture second-hand or by observation alone.

### Technology & Comparative Technology:

Through learning the technologies of manufacture, I found each process to be used in multiple objects. For example, blacksmithing produces long and short knives, hoes and spearheads. All objects are made up from a combination of technologies, supporting the concept of 'constellations'. These 'constellations', when put together in a particular order, produce a certain object, giving a technological process of manufacture.

All Orang Ulu groups have varied and complex technologies from which they produce the objects they need. Each site where utility objects are used has its own particular set of implements or 'tool box'; and rarely do these move to other work sites: objects used for farming are generally not found being used in the garden. Most objects are made to perform a single function at a single site, only blades being multifunctional (i.e. hoes are used at the farm and garden, *parang* and *pueh* are used in all areas of subsistence life). When an object is no longer required for its primary use, it will often find other uses, sometimes at other sites.

Baskets of a similar appearance sometimes have different uses, depending on the ethnic group. The Badeng *bayut* is used for washing cassava, whereas the similar *gawang* of the Penan is used for carrying light loads. Not all objects that appear to be the same necessarily are.

Document holders may be carved from whole bamboo or woven from a variety of materials. The Badeng weave sleeping mats from rattan; the Penan use *tepo'* (*Hornstedtia scyphifera*) for sleeping mats at the farm and rattan for home; the Lun Bawang, *sier* (*Cyperaceae*); and yet each may have mats made from the other materials. The Kenyah Badeng produce five different types of chicken basket, the choice based on personal preference and available materials. All five chicken baskets differ from the type produced by the Kelabit and Eastern Penan, even though the different methods of manufacture are

understood by all the groups and used elsewhere in their material culture assemblages. All groups use at least two of the three styles of baby carrier. Being aware of different comparative technologies does not make individuals or groups move from their preferred object design; or for one style to necessarily be considered preferable.

Some objects and designs are state-wide or international, as a particular design has been arrived at and found suitable in a range of regions. Often the choice is down to the preference of the user, the fashion in the area and its suitability for the task. As Pfaffenberger comments, 'A huge variety of techniques and artifacts can be chosen to accomplish any given utilitarian objective.' (1992: 496).

#### **Environmental Issues:**

As can be seen from this study of utility objects, the Orang Ulu still have the capability to make everything they require, to live their lives sustainably, using local resources (iron ore is available, as is the technology for smelting - Kjellgren 1999). These sustainable lifestyles provide adequate nourishment in all the main food groups and access to clean water (Peters 2002: 8-9 & 134), an important lesson in technology with our unsustainable 'superior' technology causing such problems with climate change (pers. com. Sillitoe).

Many of the organic materials used in the manufacture of objects in the *Ulu* are now under pressure. The Asap/Koyan region suffers a dearth of quality rattan, due in part to population pressure caused by the move of several large communities to this small area, making way for the Bakun hydro scheme. Not only is land in Asap used for housing but also for each family's swidden farm. Swidden farms move regularly to allow the forest to regrow, protecting soil fertility. This means there is a continual search for new farm sites, but regeneration periods are getting shorter due to the lack of space. Much of the surrounding land has been given over to large palm oil plantations, preventing swidden farms' spreading. Little space is left for rattan to grow wild, and where

it is cut, little chance for its regeneration. While palm oil plantations provide some employment they remove many of the natural resources as nothing grows around them. Collecting has become far more time consuming as longer journeys are undertaken, often back to the Bakun area.

In the Lg. Lellang area I was told of people travelling to the Tutoh watershed to collect certain species of rattan, as local stocks are currently depleted, partly from logging and over collection (In the areas I studied heli-logging was in progress rather than the clear felling seen elsewhere, so much of the ground cover remains). Some species such as *Calamus laevigatus* have always been difficult to collect as their habitat is at high altitude and specific journeys have to be made, when time allows.

E'tin is brought rattan to use in her baskets from logging camps, along with orders for baskets, so she always has enough raw materials for the order. Many weavers have family members in the logging camps who send them regular rattan supplies, overcoming problems of localized loss. The carrying of messages and goods between family and community members is not seen as an economic encounter; although the sale of rattan between people in villages is occurring more frequently as supplies become difficult to access. When rattan is bought, it is ready prepared, and sometimes dyed. The quantity is counted by the number of *ulat* (loops) it can be used to make on a *serut*, each *ulat* requiring four strands. Therefore, to buy forty *ulat* means the bundle will contain 160 strands.

The materials for craft production are available to all, as they grow wild, but some can also be cultivated in family gardens (often pandanus is seen). This practice is spreading with today's shortages in certain materials. In some areas rattan is being collected in the forest and transplanted in gardens to try and sustain production. One government initiative to grow rattan produced an abundance, but it was not considered good quality by weavers. Now the

initiative has been taken over by the makers themselves, using their preferred rattans. Potentially, this could give rise to the commodification of these materials; changing manufacturing arrangements with some specialization based on raw material availability.

Blacksmithing is the only occupation that frequently uses materials from elsewhere. Scrap metal is available to all (recycling is easier than smelting), it places no restriction on production and uses metal which would otherwise be rubbish.

As man-made materials are used to make up for losses in organic supplies, waste is created which no longer breaks down. Litter is found across the areas as there are no disposal systems. People burn plastic waste producing toxic fumes and animals can become entangled in such waste. Goods, purchased with the money made from the sale of baskets, create even larger problems, with little known of the dangers created by some. Batteries, are often pulled apart by children, wanting to use the metal discs at each end as wheels for the toy vehicles they make. They touch the inside containing cadmium and other poisonous heavy metals, which are found in many of the electronic goods purchased. These metals may cause health problems if waste disposal is not addressed.

### **Intermediate Technology:**

A variety of intermediate technologies are found across the *Ulu*. Many villages now have electricity from kerosene generators, small hydro schemes in local rivers or solar power. The latter two are becoming more popular, replacing generators, as they do not require fuel and are easy to maintain, only initial purchase is necessary. In many areas the government is installing these renewable energy sources. Lighting allows people to continue household tasks for longer periods (up to three hours in Lg. Main, where electricity is used across the village from 19.00 - 22.00, after a village-wide vote on the hours).



Object makers are able to produce more for sale, giving them larger incomes. In some places electricity from car batteries is used to stun fish in rivers, making fishing easier and replacing the traditional *tuba* poisons. Many are ambivalent about electricity, choosing not to use available supplies.

Replacements have been found for certain objects like small plastic colanders and laundry baskets for scoop fishing. These have a longer life span, as they do not rot like traditional rattan scoops. Egg boxes replace rattan waste on which to place hot pans; plastic bottles are used instead of bamboo tubes for water; the vacuum pump from kerosene pressure lamps or long nails are used to make *solat* (awls). Foreign objects can find new uses as they are recycled - 'culturally redefining them' (Kopytoff 1986: 67, Thomas 1991: 4 & Henare *et al* 2007: 15). The Orang Ulu take the view of an Alaskan Unalakeet village leader 'We take whatever technology works and shape it to our own purposes and uses... Apparently that bothers people who want us to remain pristine, or to admit our contradictions of wanting technology *and* controlling and preserving the natural resources for our own use.' (Jorgensen 1990: 69. Also see Howes & Chambers 1980). The Orang Ulu use objects to suit their needs, adapting to their culture and subsistence regime. Often new technology has been tested and found not suitable. The umbrella, when it is used at all, is not carried outside the village, because it snags on trees, acts as a lightening conductor and does not leave the hands free.

Not all intermediate technology is introduced from outside, some is local in design, overcoming particular problems as they arise. In Bario, unusually complex *buan* (Kelabit rice harvesting baskets) are on sale, having many extra straps across their surface; this is not a decorative form and does not retail at a higher price. Due to the lack of quality rattan available to the makers on the Indonesian side of the border, straps have to be added for strength. This is an intermediate technology, using poor quality rattan in a new way, to produce a basket capable of carrying heavy loads of rice. It is a form of evolution, taking a

traditional object and redesigning certain elements in a unilinear manner to move the object forward, still allowing it to be used for its purpose.

### **Evolution & Diffusion:**

Many items found across the *Ulu* have remained the same for years as they fit their function. Where changes occur, it is rarely in the unilinear way shown above with the *buan*, many are straight translations of traditional objects. Made in plastic; new items from outside are replacing traditional items, such as plastic plates and glasses instead of wood or stone ones; or outside objects being redefined as intermediate technologies. Some objects have become hybrids, a particular maker putting together parts of different objects, to form a new item with changed uses. Other changes are made to items through cross cultural stimuli: with harvest baskets a user may prefer the four legs found on an *ingen* with the rim from a *buan*, or vice versa. Certainly, from the data collected, unilinear evolution was infrequent (although innovation was very much to the fore) particularly when designing objects for sale.

Diffusion, by borrowing styles from another ethnic group, can be seen in various contexts. As already discussed, the Penan *serut* (basket), has been so totally assimilated by the Kenyah Badeng, who, using it for many years, call it a *blanyat*, and claim original manufacture. All other groups use this item, some making it themselves while others purchase it from the Penan.

Some designs come from further afield, the flower pots made by Gadong (pl.9.45) are taken from the Iban basket called a *gadai* (see Blehaut 1998 for examples). The Badeng *bakun* (a spiral woven, decorative basket), is based on weaving techniques from outside Borneo. Different techniques are introduced as a result of intermarriage with other Orang Ulu or Sarawak peoples; or are seen when travelling. These examples not only show diffusion but also aspects of cultural interaction and exchange mechanisms.

Some new objects have their shapes copied from elsewhere, but are made using traditional techniques and materials, such as Lily's handbags in Lg. Main (pl.10.45 & 6). This creates something unique to the maker, using diffusion traits. Others are redesigned so that they can be made with traditional techniques, but in new materials, such as hand-held shopping bags (pl.10.43 & 4). These are very much market-driven and experimental, to see what sells well in the tourist sector.

The settling of some Penan, has encouraged localized diffusion in object style. With subsistence methods changing from those of hunter-gatherers to those of swidden farmers, new 'tool kits' are required, borrowed from their settled neighbours. Where the neighbours use *buan* (harvest baskets) it is these that are made by the Penan, whereas in other areas the *ingen* has been copied. All of the other tools needed for farming and gardening, with their local variations, have also been taken up by the Penan. This is one of the few examples where diffusion, with no design development, is the only method used in the spread of objects.

The use of the tiger image in beadwork is intriguing and may show diffusion, 'tigers were native to the island and only became extinct during the Holocene' (Harrison 1998: 89), evidence having been found in excavations at the Madai caves (Sabah) and Niah caves (Sarawak). When I asked my informants, I always received the same answer, that they were there 'before' and could gain no further information. When reading Klausen's work I found that Lumholtz had named one weave pattern 'tigertrack' which the Penan described to me as a paw print (Fig.5.8 & 9). Large cats such as the clouded leopard do exist, and one of the civets is striped like a tiger, although *Ulu* people distinguish these from tigers. Tigers are found in many areas of South-East Asia and feature in art from China and elsewhere, so the imagery may have been brought to the region by traders. Objects containing tiger imagery may well have been given to people with influence, for example the *paren/maren* (upper) class (the only

ones traditionally allowed to use the design). Certainly Chinese ceramics are found in villages, but without historical documentation to the fact, or, further examples of trade items, diffusion perhaps has to remain supposition.

Some objects are no longer produced. I doubt that the *kope* discussed earlier would have been resurrected, had it not been for my interest. Only two women had ever made one, both several decades ago. The 'constellations' used to produce the *kelung* (see Tacit Knowledge) are no longer known, as the weave structure is different to that seen in all other baskets in the region, and there are so few of these baskets left, that Salalang has been unable to find one to use as a pattern. The *ulat bat* (open weave basket) and *buan budok* have also been lost. All these items have been superseded by other traditional designs, the first, because its replacement was better fitted for function, the latter, because the replacements are easier to make or the raw materials easier to find.

### **Consumerism & Sales:**

Although, here, I am not looking at the mass produced commodities usually found in consumerism and consumption studies (Miller 2006: 341), some objects possess spheres of circulation through exchange, sales in local markets and to tourists. This is bringing about changes in local communities and also in the way the state views manufacture as part of the tourist economy.

Not all craft producers choose to make items for exchange or sale, many produce specifically for their own needs; preferring, if they need an income, to collect forest products, work in the logging camps or further afield. As some items are not sold they are not commodities, this follows Appadurai's argument. He 'suggest[s] that commodities are things with a particular type of social potential, that they are distinguishable from "products," "objects," "goods," "artifacts," and other sorts of things - but only in certain respects and from a certain point of view.' (1986: 6) 'that a commodity is *any thing intended for exchange*.' (ibid: 9). As noted, none of the objects found in the lowest

manufacturing classification are sold or exchanged. Here I use commodity to mean something with exchange value, not monetary value alone.

Most income earned from utility production is local, within the longhouse or nearby villages. This can take the form of barter: exchanging different types of craft objects, agricultural produce, tobacco, jungle produce (such as rattan, dammar resin and *gharhu* - scented aloeswood); or, as farm, garden and building work. Monetary sales are usual today and in both cases the proceeds from sale are retained by the maker. Some groups like the Penan and those entering Sarawak from Kalimantan, will travel long distances on foot to visit longhouses and villages, with the purpose of selling craft goods and jungle produce. This long-distance trading is historic, but gives an idea of the value money is beginning to have for these societies - as they move towards the need to purchase some basics, due to environmental issues and changes in lifestyle.

The Penan Talun from Koyan frequently travel about the area on motorcycles carrying stacks of *ingen* (harvest baskets) from village to village, selling them on verandas. They are the most prolific producers of *ingen*, for sale, other groups making only for family use. An *ingen* will retail for about R.M. 20, depending on size (they are not comparable in value to the *serut* as the smallest size of this will realize R.M. 28, because of the decoration). These undecorated baskets can be made in a single evening. Other commodities within local communities are also unadorned, such as sleeping mats and knives. This lack of decoration maximizes the profit to work ratio, whilst still producing saleable objects. Local buyers will not pay more money for decoration on an object which is already fit for purpose.

Local orders for work can come from plantations and logging camps. Orders are brought to the village when someone returns from camp and the object is collected next time. Such work is often personalized and highly decorated, the information on wording and any decoration preference is given with the order.

This work produces higher monetary returns. E'tin from the Badeng in Koyan, makes most of her *blanyat* (*serut*) for this trade.

When I asked Saloma who chooses the design on a basket, she said 'if a basket has been commissioned by a client then they choose the designs, providing the designs will work together. When making for themselves or the family, it is entirely the choice of the maker and any design can be used.' Lucia Asa agreed it was the choice of the maker. Both Saloma and Et'in when making baskets for sale, use designs they have found popular in the past. There are no prohibitions in the use of woven designs, nor do they show status. New names are given to patterns where necessary to identify them for the purpose of sale.

Consumerism in the *Ulu* has resurrected some items, along with experimentation into new styles and the redesigning of traditional objects (Pfaffenberger 1992: 494). Traditional techniques using local or imported materials can produce new shapes (in bags - pl. 10.36 - 10.46 and mats - pl.9.38). This production of different basket styles and mats (made as table mats and coasters), is resulting in 'new spheres of circulation' (Thomas 1999: 10) in the tourist market.

Objects for the tourist trade are often highly decorated or coloured. Experimentation in colouration is an ongoing procedure, as there are no blues or greens in the natural palette so far; also noted by Ellen (2009: 264) in Seram. Several overseas buyers will only purchase naturally dyed, traditional products, helping to keep these techniques going. Also, for people with no ready access to shops, traditional methods of colouration and preservation continue. Dye and protective coatings are being joined and supplanted by man-made equivalents in communities close to towns. These products are cheap, easily acquired, are quick to use and give new colours.

The production of decorated items for sale, occurs where there is a tourist

market, as it is worth the time to make items which realise a higher return. Access to these markets for many is restricted by distance. Objects with woven decoration, include sleeping mats, small mats, *serut* and *gawang*, *tapan*, and occasionally sunhats (women produce most of these items). Small *tapan* are attractive when decorated and are easy to pack, so popular with air travellers, extending their biographies by a change in use through commodification.

Due to difficulties accessing most areas, there are infrequent opportunities to sell goods to visitors and tourists in the villages. When the opportunity arises word spreads rapidly and those with finished items for sale will bring their work and seek out the visitor, to try to make a sale. Goods are brought to Lg. Lellang from as far away as Lg. Sabai, several hours walk, as residents here know visitors will be around for a minimum of three days due to the rural air timetable, the only way in and out for tourists. With an upsurge in the number of people visiting Lg. Lellang, young Penan from Lg. Kerong and Lg. Main, who previously did not manufacture craft objects, have now started to learn the skills, as a way of making money.

Guides at Mulu National Park (Fig.2.1, area 8) take tourists to the upriver caves (the main attraction of this park) via the Penan Batu Bungan village (pl.10.40), specifically to help the Penan sell their wares. The Penan have their stock laid out in preparation for these visits.

Another distribution method available to many Eastern Penan is through the charity 'Rainbow Destiny', who buy their crafts regularly, visiting the villages or asking friends to buy for them. The quality has to be of the highest standard, there is list of faults that can prevent a sale, and all the materials and dyes used have to be natural. 'Rainbow Destiny' supplies shops around the world and exhibit goods, wherever possible, sometimes in association with the Sarawak Atelier Society. They are a non-profit organisation with money going to community based incentives, such as skills initiatives, sanitation and building

materials, for the Penan.

Public transport is available to some communities, including the rural air service, ferry services and buses, all taking unaccompanied goods, providing there is space. According to Lucia Asa, who runs a souvenir shop in Miri (pers. com. 2003), this is risky as frequently goods disappear in transit. Most of the objects she has for sale are transported by courier, i.e. someone travelling to town. Sometimes traders from nearby towns such as Belaga, Bintulu, Miri and Marudi, journey to the villages: visiting particular villages where they can be certain of finding items, such as the Kejaman Lasah at Lg. Segaham, where there is a ready supply of highly decorated *ti'in* (fruit baskets).

Although negotiable, approximately 50 % of the income made by shopkeepers is passed on to the maker. I did not come across any example of objects taken on a sale or return basis. The retail value of many items is low, as they have to compete with similar products brought in from elsewhere. Most tourists are unaware of the origins and materials used to make their souvenirs. An overly generous N.G.O. bought decorative items direct from the makers at high prices. This has led to people in the region being unwilling to sell to shops and middlemen at the going market rates. They think they are being cheated, having no knowledge of the difference between wholesale and retail markets. Makers keep all the money from sales, unless they owe someone for materials.

The Government run, Sarawak Craft Council (S.C.C.) helps to alleviate some of the problems associated with access to markets. Their 'Mission Statement: The Sarawak Craft Council provides the leadership in the development and enhancement of the handicraft industry in Sarawak.' Their 'Objective: To develop the handicraft industry into a more coordinated and progressive enterprise that will complement the needs of the tourism industry.' (Sarawak Crafts Council - 2003).



The S.C.C. sponsor and lend interest-free capital for setting up small craft businesses. Their rural training programme started in 1998 now has 100 trainers, with 300 trainees. The trainees and/or their products are brought to promotions, exhibitions and events and the moneys from anything they sell remains with the trainee.

Exhibitions are also set up by the S.C.C. in conjunction with the Sarawak Tourist Board and Kraftangan Malaysia (the Malaysian Handicraft Development Corporation) locally and overseas, taking producers and retailers, currently paying all their expenses, so that buyers can order directly. Other initiatives include: the current compilation of a Handicraft Directory; preparation of an industrial development master plan (using a budget from the State Planning Unit); setting up a website to promote the S.C.C. and the goods produced by those they help. Help is also given in the transportation and packing of goods for overseas destinations (pers. com. Beatrice Kedoh Tajang 2004). The S.C.C. now has a show-room and office space at the Round Tower in central Kuching, a historic building in the tourist area. This is used to 'showcase Sarawak handicraft products' and 'craftsmen [are] invited to demonstrate the many types of handicrafts produced' ([www.sarawakhandicraft.com](http://www.sarawakhandicraft.com) 2004).

Other organisations exist with similar aims to the S.C.C., including the Atelier Society Sarawak, which promotes the handicrafts of the area through exhibition and trade fairs. The objective of this Society is: 'To appreciate and promote, share and acquire knowledge of Sarawak arts and crafts.' (Ong, no date).

The need for branding (one of the issues looked at in consumption studies), has come to the fore in Sarawak, with the influx of cheap items from Indonesia and the Philippines. There are moves to introduce a 'Made in Sarawak' label. This would help local producers sell their work to discerning tourists, who want a guarantee that the items they purchase come from the area. According to the S.C.C. website: 'Handicrafts made in Sarawak will soon carry a certification

label or stamp. The purpose is to distinguish our local handicrafts from those produced in other parts of Borneo and neighbouring countries' ([www.sarawakhandicraft.com](http://www.sarawakhandicraft.com) - 2001). These objects are not necessarily 'pirated' (Harrison 1999: 241), as many of the makers in Kalimantan belong to the same ethnic groups, using the same designs and imagery. Due to economic differences, Indonesian makers can undercut the Malaysian market, making Sarawakian made items economically non-viable without identification of their origins, giving them a perceived added value. This initiative is similar to 'Product of Australia' labelling.

Income from object sales is used by the people in a variety of ways. Many elderly are supported by their childrens' production. Income is used to pay for children's education (education is free, but boarders have to pay for food and accommodation, and all children require books, writing implements and their uniform). Further, the furnishing of living spaces is important, with curtains, bedding, formica walling and electronic items such as T.V. and D.V.D. Not every family has the latter, it is seen as far more sociable to get together at someone's home to watch T.V. Unusually, items like fridges and washing machines, if purchased at all, are discarded later as unnecessary.

Many traditional objects and ways of accomplishing tasks are preferred with little desire to make changes. 'A person's relationship to an object is obviously very different when they have made it themselves, or provided the raw materials, or in other ways participated in its production' (Tilley 2006: 68). But income expenditure does show a slow move towards some of the elements of a consumer society. These recent changes mark a move away from the traditional purchases of food when a harvest had been bad; or heirloom items used in traditional *adat* (customs).

**Change Issues:**

I found many different reasons for the changes occurring in the *Ulu*, some of which have already been examined. The settling of some Penan (resulting in localized diffusion of the 'tool boxes' required to be swidden farmers); losses in some traditional organic raw materials through environmental issues (causing a move to outside materials); and tourist sales (causing major changes both to manufacture, techniques and style, as well as to income levels).

The materials available dictate certain changes in traditional manufacturing. All materials are chosen for their qualities, whether, softness, strength, visual aspect or flexibility; composite objects often have different requirements for different parts. I found little change to the design of most basic utility items, as they fit their function well and are still needed. Such objects include ladders, pestles and mortars, fish traps, knives and heavy duty baskets.

A plastic with the manipulative qualities and aspect of fine split rattan has yet to appear in the *Ulu*. There is no substitute for whole rattan either, but plastic strip functions well as a replacement for wide strips of split rattan and is frequently used in its place. Apart from the loss of weaveable quality rattan in some areas, plastic is often used because it is colourful, giving a palette unavailable through traditional natural products. It is also hard-wearing, strong and withstands cyclic wetting and drying. Other replacement materials include a plastic, raffia style, string used in place of the traditional bark string; rope in place of woven cords made from rattan and nylon fishing line, replacing pineapple threads for netting. Many of these have been introduced specifically because they are stronger and ready-made.

Exposure to new needs and a desire for certain objects is causing an influx of new ideas and objects, speeding up the rate of change in some areas. Mattresses are being seen in place of sleeping mats and beds are even found in some houses, along with sofas replacing sitting mats. People are emulating images

they see through mass communication and these are creating fashions within the area. Plants are being brought inside as decoration, requiring flower pots; and curtains instead of shutters.

In addition, there are fashions for particular designs, most often those which are new to a maker or community repertoire. I showed a photo of a Kayan mat from Sarawak Museum to Rinai which consisted of vertical and horizontal stepped stripes. After which, most of the basket makers in the area produced several examples of this weave, practising its manufacture and experimenting with its use.

It has further become fashionable, since the introduction of literacy, to incorporate names, dates and sayings into beadwork and weaving, by those who have some formal education (a large percentage of those under 50 years of age have an education above primary level and it is now obligatory for all children to attend secondary education. Many going on to gain higher degrees, as has been the case for several decades). Talun's beadwork often shows banners of writing (see pl.3.27 - the top line says 'Malaysia can' a slogan used as a government initiative in 2001). Other sayings include religious quotes and traditional homilies. Et'in is often asked to weave owner's names in to the *blanyat* (the Badeng *serut*) she sells. Being educated away from the community prevents people learning the skills in craft making when they are children, many starting only when they return to the village.

Some young people are finding work away from the area after school, although this has not reached the levels seen elsewhere in the world. It is still impacting on village demographics, with higher levels of elderly, lone parents and the very young (secondary age children attending boarding schools). Many still prefer to return home after their education, or find work locally, allowing them to take part in traditional life.

Schooling is one of many reasons for object use to change. When children attend boarding schools, bags are needed to carry everything. These are chosen from the repertoire of the family, as such Rose was given her small *keba* (*ayit*), so she could carry some of her belongings on the five day walk to the school and then use it, once there, for books (journeys of this length, on foot are still frequently undertaken to get to school). Other lifestyle changes also have an impact in the *Ulu*, giving rise to a changes in the use of many objects. For instance, *keba* are used by people working in the logging camps to carry all the things they need, their loads often include such exotic objects as DVD players. Travel is in the back of four wheel trucks or on motor scooters and so a sturdy, expandable backpack is the best method of portage.

Changes to community life-style bring about changes to the selection of objects and the acquiring of new ones. The sun hat belongs to swidden farmers (Penan did not traditionally require sun hats, living in the shade of the forest canopy), some Penan have taken up their manufacture as they become settled or semi-settled, such as the Eastern Penan who generate an income from their manufacture with tourist sales. The Penan Talun in Koyan, although settled for a long time, have not learnt the techniques of manufacture, instead preferring to purchase such items, undecorated, from neighbouring villages.

The move to the Bakun area has caused many changes for the communities now living there, from those mentioned previously, relating to the Penan Taluns sale of *ingen* locally, to problems accessing raw materials. Previously, sales would have taken place over far larger distances, not allowing the turnover now possible (makers travelling large distances can only carry so much on one trip, whereas the Penan Talun can quickly return home for more supplies).

The Lahanan, previously makers of their own material culture assemblages, now make few utility items, preferring to use the time for landscaping their

community area. Locally there are so many people making objects for sale there is little reason for making them. Badeng, who cannot or do not want to make *ingen* also buy them. Although certain skills are slowly being lost from some groups due to this move, the income generated means skills in other groups are on the increase. This has probably been the greatest change across the areas I studied, having so many repercussions for the groups involved, not only at a manufacturing level, but in all other aspects of their lives.

### **Art & Design:**

As Morphy comments 'just as with any other category, the majority of objects in existence at any one time are excluded from "art". If art was just a rag-bag into which everything could be equally easily fitted, then there would not be a problem. Nor would there be, in any meaningful sense, an anthropology of art.' (1994: 650). Utility objects range in the amount of decoration they contain, from those with none, through those with subtle patterning, to the highly decorated. The larger portion of utility objects in the *Ulu* do not fall into the art category. Most imagery is found on things other than utility items (such as shields, paintings and sculpture where the symbolism is apparent), but certain utility objects, have ornamentation adding to their 'life history'.

Baby carriers fit into Morphy's criteria of art in 'having semantic and/or aesthetic properties that are used for presentational or representational purposes' (1994:655), in decoration comprising highly coloured glass seed beads (also seen on sunhats not used at the farm and headbands used for traditional ceremony). The decoration is representational, as it shows human, *aso* (dragon-dog) and tiger forms, along with geometric elements, combined in a highly individualistic manner to present particular symbolic meanings (see Symbolism). Compositions are made solely for a single object and not repeated, this removes such images from the level of 'handicraft' into 'folk art' under Bartra's (2003: 2) definition. It is only utility objects containing these images which are seen by *Ulu* communities as crossing the barrier from utility

manufacture to artistic endeavour.

**Design** is present in all objects. It is our way of envisaging a completed object, prior to and during manufacture, working out necessary elements to accomplish function. It encompasses the addition of decorative elements when wished. In the *Ulu*, most design is conceived in the mind, rather than on paper, then translated into objects.

When watching makers weave baskets, it is obvious that they use spatial cognition (Küchler 1999b:), that strand counting does not occur, even when producing new designs. I had to count strands constantly, although the more familiar I was with a design the less this occurred. Women watching found my counting unusual. On the few occasions when women produced a copy, they put a marker pin (made from a small piece of wood or pineapple stem) into the weave of the original, to mark where the weaving on the copy had reached. But copies are only made when an order is placed for a specific item. Where an entirely new design is produced, spatial building of the design occurs. Observing the spacing prevents the weave becoming too loose, extra weaves are placed over loose strands to hold them in position, while keeping consistency in the pattern. Crickmay found something similar in the Quechua textiles of Bolivia 'I want to write the instructions down and look at them, Quechua weavers configure the design and its threads mentally' (1988:40).

On some items, I saw weave patterns which did not join properly, usually on items made by unpractised or young persons. In some a 'pattern fill' (seen on the *gawang* in pl.5.) was used, where the number of strands were not appropriate for the design (each pattern needs a specific number of strands per repeating section. For patterns to work properly the number of strands in each must be multiples of each other. Glitches occur when the strand numbers do not work together). Proficient weavers can add and remove strands from a basket to make a pattern join properly, also having a greater understanding of

the numbers of strands required to produce certain patterns; and which patterns can be combined while keeping the weave true. Understanding how design elements work together is tacit knowledge, gained through experience.

The capabilities of the weaver have a bearing on the choice of design - many are extremely complex. Novices tend to use patterns which repeat frequently, getting into a manufacturing rhythm, or sometimes choose to use less decoration, making things easier to manufacture. At the other extreme, Saloma Jallong produced a design on a *serut*, which had only two repeats, an extremely difficult weave (she was forced to work slowly to avoid making mistakes - it would normally only take her an evening to produce a small *serut*, whereas this one took several).

My findings showing that there is little symbolism in the woven patterns on most utility items. This is similar to observations made by Hames and Hames (1976:18) and Henley and Mattéi-Muller (1978:93) working in the Amazon. The banded and block patterns found in the *Ulu*, are generally seen by the weavers and others in their communities as nothing more than decoration. It is hard not to share their view. There are so many differences in the naming of images, not only between the various ethnic groups, but also village to village and person to person. Many patterns have lost their names completely.

If they were symbolic, surely those people who own the things and come from the same community would agree on what an image depicts? Certainly, when asking the Badeng for meanings, many elders, who tell the old myths and adhere to traditional animist religions, were involved in discussions. Yet they did not see these images as symbolic and were just as likely to disagree with each other's representations. All of the designs used in weaving are taken from the local environment rather than mythology. Symbolism is used and meanings remembered for higher value objects and is the preserve of other craftworks. This supports my argument that symbolism is not something that



has been forgotten by later generations or with religious conversion (the first S.I.B. Borneo Evangelical Mission conversion was in 1940 and Bungan cult beliefs only date from the 1940s, within living memory). These factors confirm that woven patterns are purely decorative, as people told me.

There are no prohibitions to pattern use in basketry, bands and blocks of woven pattern can be used on any article, depending on the wishes of the maker. This is in direct contrast to Bolton's findings on Ambae, where only specific designs can be used on particular woven textiles, which are distinguishable by their patterning (2003: 115). Again, if these patterns were symbolic I would have expected to see some prohibitions in their use.

The ethnographic facts do not show conscious symbolism in the patterns themselves, as is often posited by structuralists. Attempting to find unconscious symbolism would be unverifiable, ethnocentric and subjective. Nevertheless, other symbols are seen in Orang Ulu decoration; either consciously or unconsciously, showing excellence in the quality and skill of craftsmanship, through the ability to combine mutually pleasing patterns, and envisaging pattern combinations prior to manufacture. Further, by using patterns that work together through strand numbers, this shows the highest competence in a weaver. Quality is readable to all.

### **Symbolism:**

One of the few utility objects which has symbolism is the *Bah* (baby carrier), used to carry infants on the back. It is believed to keep babies safe from the spirit world, using elements of decoration which vary (Whittier 1988). All have such decoration no matter which community or its religion. This decoration, although aesthetic, is added to create a 'noise' to keep evil spirits away from the child, and has the secondary benefit of lulling the child. The choice depends on the maker. It varies from bells and coins, to plastic tiger teeth (originally the real teeth of large cats were used) and large snail shells, positioned so that they

knock together (snail shells are found mostly on *tergalau*, the sago spathe *bah* of the Penan).

In traditionally hierarchical communities, such as the Kenyah Badeng and Kelabit, beadwork designs found on *bah aban* (beaded baby carriers) relate to the social standing of the family. Only *paren/maren* (upper class) families were allowed to use images of the human form, the *aso* and the tiger (pl.3.28. shows a hat with heads interspersed with the mythical *aso*, said to guard against evil spirits). Lower and slave class families only used geometric designs (pl.12.2). These images or symbols reference status and are readable to all (Lévi-Strauss 1966: 18, Layton 1991: 42/3). Although these societies say they are no longer hierarchical, these objects still show the position of the family. When I asked, I was told that anyone could now use these designs, but in practice I did not necessarily find this to be the case, people often sticking to design types familiar to them. Traditional dress such as men's hats and women's headbands, for special occasions or dancing are often decorated in a similarly meaningful way. Other manifestations of hierarchy have been disbanded; for example, the position of living quarters in the longhouse, previously the closer to the centre of the longhouse a family lived the higher its status (although the Headman often still lives centrally).

Other types of *bah* are not highly decorated. The *tergalau* has no decoration beyond the rattle. The decoration on the *bak wei* (baby carrier) is formed from woven stripes, diamonds and other simple geometric forms. This type of carrier is as frequently chosen as the beaded style by those able to make both. Women with several children will often have both. The choice is personal rather than determined by social standing. Saloma Jallong an Eastern Penan told me 'not every baby gets its own carrier, the first baby can share its carrier' this comment matches one from Lucia Asa a Kenyah from the Baram who said 'it depends on the parents'. I have seen sharing between babies from some Uma Badeng families, even those who could be considered of higher class. I have

also seen some grandmothers almost continually producing *bak wei* for each of their grandchildren.

It is arguable that the act of decorating, or not, is in itself symbolic of whether an object is seen only for its utilitarian function or whether it has a secondary purpose. It may not be the decoration which has meaning but the act of decorating, as Layton said 'Objects can... be used as signifiers of *something else*' (2006: 32).

### **Gender, Labour & Specialization:**

Some peoples, such as the Wola of Papua New Guinea (Sillitoe 1988 ch. 9), the Ambae of north Vanuatu (Bolton 2003) and the Yekuana of the Amazon (Hames & Hames 1976 and Guss 1989) observe a strict gender division with subsistence labour, manufacture and use of objects. Others peoples do not, such as the Vanatinai (Lepowsky 1990), and the Agta of the Philippines (Estioko-Griffin & Griffin 1983 and Estioko-Griffin 1985). Orang Ulu communities have division of labour but it is not prohibitive.

The Orang Ulu confirm Leacock's point: 'The common use of some polar dimension to assess women's position, and to find that everywhere men are "dominant" and hold authority over women, not only ignores the world's history, but transmutes the totality of tribal decision making structures' (Leacock 1981: 18). Crafts created by women have sometimes been held in less esteem due to ethnocentric and perhaps misogynistic views in the past. As Thomas comments 'Women's art forms in the Pacific have been neglected for several reasons. Collectors and curators have taken them to be less visually spectacular than men's products, such as carved ancestor figures; they are readily classified as utilitarian craft items rather than as art.' (1995: 115, also Bartra 2003: 3). Hurcombe points out that 'the ethnographic "texts" are lacking because plantworking to create basketry or fabric is often a female task whereas accounts are mostly written by men and they have focused on the

actions of their own gender either for pragmatic reasons or because they believe them to be more important. Basketry and textile items are thus poorly represented in both the archaeological and ethnographic records.’ (2000: 89). Learning from this, I have worked with both sexes to prevent such sexual polarity in my work, both sexes producing utility items in the *Ulu*, often by working together.

The following examples of Orang Ulu subsistence labour shows how men and women collaborate in all areas, often with one gender taking a more active role. This active role changes between the genders depending on the type of work and the situation. Makers can manufacture objects for work carried out by either sex depending on the object, but more often produce things that they themselves will use.

Women work together with men on arduous tasks, every adult undertakes farm and garden work, men heavier tasks such as felling trees and women clearing scrub, also strenuous. These tasks involve the use of a *parang*, both sexes use them equally, together with other types of blade. Both sexes cut paths, hew wood and chop meat. During planting, men usually dibble holes with equipment they make; while women plant, carrying seed baskets of their manufacture; but these roles are interchangeable. After clearing and planting, only some family members remain to tend the crops, both sexes weeding and carrying out pest control. At Uma Badeng, Ludung Kayang lived at his farm continuously, alone, doing all the work; Lahai Kakei a Penan from Lg. Kramo’, also lived alone at her farm, doing all the work, showing that general farm work is not divided along gender lines. In the garden, chicken baskets are produced by men and women, using their own preferred techniques (women usually make chicken baskets with a plaid or hexagonal weave, whilst men often use looping techniques). Tools for the garden and farm, made of wood, are usually made by men and used by both sexes.

Harvest baskets made by women are used by the whole family, along with winnowing equipment and drying mats. Harvesting is carried out by all adults, with women taking the active role (historically rice production was the responsibility of women, with men taking part in warfare and head-hunting). Some people return from other employment to help, those who finish first help neighbours. Everyone attends village wide *gotong royong* (work bees) to bring in the harvests of those unable to work, making a party of it with food (Janowski 2003:25 & 40). This is similar to barn raising in the U.S.A. or the Norwegian Dugnad, community-wide voluntary work. Orang Ulu primarily work for their family, but come together in a spirit of co-operation to help those in difficulty, due to illness, age or death. They will also join forces to work on village-wide projects such as bridge building, the upkeep of meeting places or schools.

Carrying baskets of the type used in the forest (such as the *keba/ayit/baletkan*) can be made by either sex depending on the diameter of rattan and the techniques used. Those made by women are usually a woven hexagonal weave, and the ones made by men are of looped whole rattan (although according to Saloma, Penan women can also produce this type). Although used by men more when hunting or collecting forest produce, women also use these carriers for large heavy objects like tapioca, fire wood, tubes of water, and when they kill scavenging animals at the farm. Expandable *blanyat* are used for smaller items, made by either sex. Both sexes of Penan make the items required in hunting, but for the other groups this is solely a male task. Older Penan women hunt (Puri 2005: 289 found this to be the case with Penan in Kalimantan and it is well documented elsewhere, Goodale 1971, Estioko-Griffin 1985, and Lepowsky 1990, disproving the earlier theory of man the hunter, woman the gatherer). In settled Orang Ulu groups it is only the men who go out, often at night, with the express purpose of hunting (as this is when animals visit the salt licks, come to the rivers to drink and are distinguishable by their eyes. Women will also kill animals - see above). All items are produced largely in the family

for use by whoever requires them.

Fish traps are produced by binding and are made by men. Netting is done by both sexes, men for cast and drift nets, and women for the net found in *lawva* (fish scoops) and around the tops of some *serut*. The only difference is that women's nets have a smaller mesh size. Setting fish traps and fishing with cast nets are male tasks, but women can accompany them and if they are using a cast net from a boat, hold the boat in position. Women fish using netted or woven scoops in streams near the house or garden, alone or with friends, catching small fish and crustaceans, often as a break from other work, men joining in when time allows. Manufacture of fishing equipment is carried out within the family, usually by the user, men and women making items they use, but now those who can afford it are purchasing drift nets from town, since their manufacture is so time consuming.

Both sexes, although usually men, can make kitchen equipment from wood and bamboo for the family. Women generally use this equipment in the home, though men will provide for themselves and children if women are absent. Men use the same cooking equipment when travelling in the forest and at logging camp. As can be seen, men largely manufacture items from wood and bamboo, they are also the predominant users of looping and binding techniques. Whereas plaid, plain and hexagonal woven objects are more often the remit of women. Other household items are produced for the family by the person with the most skill in a particular technique (men often make hammocks which are of netted construction with a large mesh size, while women make smaller items). Household objects of fine workmanship are for the most part made, from close weaves, by women and are often beaded. This work is often carried out alongside child rearing, in which they take the larger role and are often home in the evenings when men are hunting. They are used by all and are offered to guests, often with the finest examples saved precisely for when guests visit.

The Wola have 'injunctions' over who may perform tasks. Based on perceptions of strength, Sillitoe says that 'Men are responsible for the heavier work. But this physiological argument cannot be pushed too far, for women are capable of many tasks that demand considerable strength and endurance. Men are also assigned many tasks that demand no particular strength' (1985: 497) men attribute tasks to strength of mind, rather than physicality and think that women do not have these mental attributes, which appear to manifest themselves as an eye for detail and artistic flair, implying different capabilities generally (Sillitoe pers. com. 2006). In the *Ulu* people undertake similar tasks with considerable, unquestioned cross over in the labour of the sexes without such injunctions.

When I asked Saloma directly, she said that 'for the Penan, both genders are equal.' Lucia Asa and her husband also stated categorically that men and women are equal. Although there is a bias towards men undertaking those tasks needing physical strength (Gowdy 1998, McDowell 1984, Nash 1984, Strathern 1984), roles can be interchangeable where necessary. Along with dexterity, strength is where I saw a division in tasks. These were also the only differences between the sexes given by my informants, both swidden farmers and hunter-gatherers alike. This was born out by Saloma who said 'Division of tasks is related to how difficult the task is (i.e. how much physical strength or brute force is needed). Men get the heavier tasks and women the lighter ones, those that need a more delicate hand (like weaving).' A man's strength is usually greater than that of a woman of equal height, weight, age and health, although a healthy eighteen year old woman may be stronger, faster and more adept at accomplishing strenuous tasks than a boy of fourteen or a man in his later years. As there are no formal prohibitions it is possible that most women can accomplish the same task as men, providing they have the required technical knowledge - necessity driving them to learn.

Both sexes know how to work with wood, but men do so more frequently. Men's skills are greater through practice, building homes, rice stores and boats. Felling trees needs strength and usually falls to men, but as noted, when Darie Linchaw decided to build new partitions in her house and her husband was away, she felled the trees and constructed the partitions herself. Darie's husband only has two or three weeks holiday from logging camp per year, usually *Gawai* (the harvest festival) and Christmas, so when he is home he has little time for building work: this type of cross-over in work is becoming more necessary with many younger men working away from home. Although her father and mother live in the *bilik* next door and give their opinions, decisions to do with her home or children are hers alone. Lucia and Saloma, who come from different communities to Darie and also told me women can work wood as well as men.

From watching men make *ulat* (loops) for knife handles, it is apparent that many also have similarly high standards of dexterity, and with practice could gain the weaving skills of women, this is shown by the men of the Yekuana (Guss 1989) who make similar objects to the Orang Ulu. In one village I found a transgender male (known by the Malay *pondan*) working with the women, providing confectionary for a celebration, who had chosen to do this, rather than undertake work typically attributed to men. No comments were made by villagers about this choice. Although, the only *pondan* I met during my fieldwork, they are locally recognised and fully assimilated into society.

Traditionally beadwork was a collaborative effort, designs, the preserve of men, manufacture undertaken by women; today women often produce their own designs depending on their artistic inclination. Thomas said 'many artifacts that are identified as male or female products are not entirely produced by one sex, but incorporate both male and female contributions: men may for instance gather the pandanus, which women weave into mats,' (1995:116). The designs seen in beadwork are the same as those in carving and painting, not basketry.



Except in the case of beadwork, these 'higher arts', generally the preserve of men, do not feature in utility objects. It may be that in the past there were some prohibitions attached to their design, but this is no longer remembered or the case.

Individuals making things generally the preserve of the other sex can also be seen in other areas of work; women often weave the edge of *tika lampit* (sitting mats), in some cases making the entire mat. Men often apply strapping and rims to baskets, working in collaboration with women.

The one sphere that is the remit of men is blacksmithing, although again women carry out associated tasks. Women often knot intricate ties around knife handles, as men carve them, allowing for quicker completion of several objects (chapter 3). Women sharpen blades, again in co-operation. Although a male preserve, there is no veto against women working metal and I was allowed full access by the blacksmith (not as a researcher or an honorary man but because he wanted to pass on his knowledge to someone with an interest), sadly there was little interest from anyone else, either men or women, to learn these skills.

Orang Ulu societies today are egalitarian in the labour and manufacture of utility objects. While some tasks are associated more with one sex than the other, they are equally valued. Where men generate an income from the collection of forest produce, women make one from the sale of basketry (both bring similar incomes into the home over the course of a year), and they work jointly on tasks associated with the cultivation of cash crops. Much is accomplished by men and women working as partners, in concert with each other, work varying according to individual capability and aptitude, giving their labour a fundamentally co-operative approach, from which the whole family benefits. Decisions about the division of labour are made within the family. Comment is passed in the community if someone is seen as lazy, and it

is expected that people do their share.

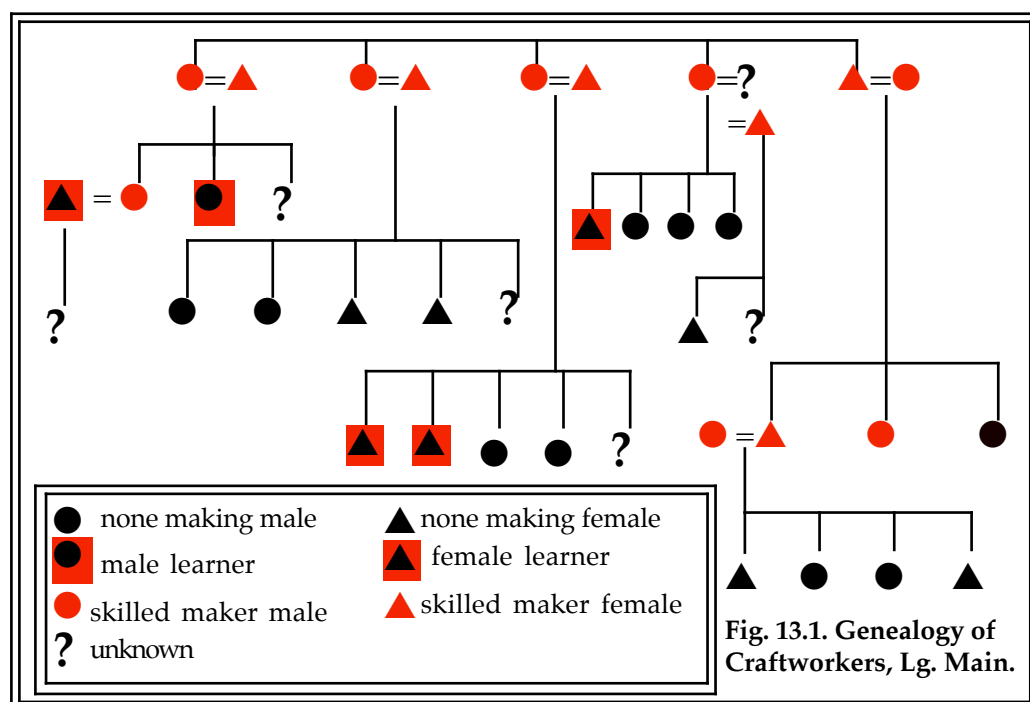
Since the removal of the slave class, during the Raja Brookes' era (traditionally the workers for the elite in hierarchical swidden communities), all family members have to contribute work at the farm, garden, forest, river and home. Hurcome states 'craft specialists and upper social ranks are thought to signify the rise of individuals who are not directly or fully involved in producing food, so subsistence production has to cover this non-food producing group.' (2000: 100), whereas, the reverse has occurred here. Peregrine (1991: 1) suggests that specialization develops as a way to keep political power in the hands of the elite. I put forward that by removing the elite (the non-food producing group), as happened here, there is an increase in utility skills across the population, removing the need for specialization. As labour became focused within the family, in the manner of the middle classes, the objects used also had to be produced. All families have craftworkers skilled in the various technologies, if no one is available to make them, they buy from their neighbours. Subsistence farming does not give people time to concentrate on manufacturing alone. Even the blacksmith only manufactures occasionally and replacement blades are rarely sought as they are well cared for and sharpened by their owners.

Little status is associated with manufacture in the *Ulu*, unlike Vanuatu where 'A limited number of women purchase or inherit the right to learn how to make the restricted stencil type [mat] called *gigilugi* and how to plait the powerful and important textiles in the category *singo*. All other women must purchase from them, with textiles or with money,' (Bolton 2003: 117). Everyone in the *Ulu* has access to the same tool kit, to carry out their daily needs and so the objects themselves are not seen as 'powerful', or possessing status, nor is their manufacture.

In most villages there are a number of highly skilled makers, often at least one in a family. At block H, Uma Badeng Lg. Geng there are 13 *bilik* (family rooms),

all but one (where only young men live) have at least one woman who can weave *serut* to a high standard, along with a full range of other baskets, many have women currently learning the techniques. (On marriage those who can, move to their own *bilik*, others will live with in-laws of either side, for a while, often, until their first child arrives. Children live at home until marriage). At least two of the women weave for sale on a regular basis, although faster at manufacture, they are not necessarily more proficient. Many of the women can produce the most complex designs. All the *bilik* have at least one man who makes and mends nets on a regular basis, several contain two men with these skills. Since most families have at least one person with skills in each area of utility manufacture, it would be difficult for status to be achieved through this.

When I asked Saloma, she said that being a good weaver did give status. The total population of Lg. Main is approximately 72, consisting of one extended family, together with several smaller family units (Each married couple has their own home and some of the unattached young men live separately. The diagram gives a rough breakdown of the extended family, not all the children are included).



In this extended family, six women are skilled weavers, all selling regularly. Almost every young girl makes some income from the production of *selungan* (bracelets), while learning more complex basketry skills. Most of the non-makers are still in education. With such a high proportion of skilful weavers, it is hard to see how this would produce status between them. Saloma, however, is one of Sarawak Craft Council's veteran trainers, receiving an income of R.M. 300 per month, giving her a status created from her craft knowledge above and beyond that of other makers.

### **Biography:**

The value of many of the objects discussed in this thesis lies in their use, their brief biographies consisting of manufacture, use, storage and disposal. This is particularly the case for those objects in the two lowest classes I identify. A few objects though do have larger biographies, produced via a number of processes. As the lives of the people in the *Ulu* are changing, as are the lives of the objects they use.

Apart from the changing biographical aspects already discussed, such as material, commodification and gift giving, some objects become heirlooms. Heirloom objects in the *Ulu* are those with most symbolism attached, at utility level they are generally objects decorated with beads. The Orang Ulu have traditionally valued beads and in the past their passage from one person to another outside the family was akin to currency, though people would not part with high value beads, unless absolutely necessary, as they are a symbol of wealth and give status. Beads, gongs and chinese ceramic jars were used in traditional *adat* (custom) as wedding dowries, for payment in divorces or as fines for transgressions - today these are also paid in money. The beads used come from many places around the world. Owners are aware of the histories of their beads as they pass from one generation to the next. A family with only a few antique beads will mix them with modern beads of a similar type.

When Darie Linchaw decided to honour me with the title of 'sister', she gifted a string of mixed beads to me, some new, some heirloom. I was instructed how to recognise my heirloom beads. As Thomas says 'This kind of value,.. is not a principle of exchange but a principle that is excluded by, or incompatible with, exchange; and in this sense it can hardly be accommodated by any theory that takes value to emerge at the moment of circulation' (1991:31). Beads of this value in the *Ulu* are not found on utility objects. Their use is for wear on or with items of apparel, such as traditional costumes. Many groups decorated their costumes further, using seed beads, but the Kelabit and Lun Bawang also make glazed clay beads, a tradition that is today being revitalized by the Lun Bawang in Lawas with the help of the S.C.C.. The beads found decorating sunhats and *bah aban* are glass seed beads and their heirloom value is associated with the workmanship and motifs presented.

Like other bead objects, it is rare for persons to sell *bah aban*. They become heirlooms after their useful life is finished, and it is usual to see several prominently displayed on the walls of the family *bilik*. Where I have seen occasional *bah aban* for sale, I have not been able to verify where they were made or by whom; it is likely that these few examples were brought across the border from Indonesia. Again it is rare to find a beaded sunhat or headband for sale as most are used on special occasions as part of traditional dress, their designs showing the traditional status of the owner in some groups. When not in use they hang in the living quarters, of the wearer. Hats and headbands for everyday use vary in their adornment. The combination of heirloom, status motifs and display extends the biography of these objects further than that of other utility objects, as they have far larger interactions with their owners than those used solely for work.

Paddles are produced by men for use by both sexes; in some groups they are shaped differently for each (possibly the shape used by men was historically

more suitable for paddling war canoes). In the past men made paddles as gifts for their sweethearts decorating them using motifs found in sculptures and paintings. Punan Bah 'women's paddles are more finely shaped and lighter than men's, those of young girls with decorations set off by the contrasting colour of white chalk. They are usually a gift from suitors.' (Nicolaisen & Damgård-Sørensen 1991: 100), Hose & McDougall also talk of this with reference to the Klemantans and Kayan (1912(i): 203). However, when I spoke to Lucia she said their paddles remained the same for both sexes, along with the Kelabit; other informants said that the decoration was done in the past and was no longer applied. As carving is the remit of men I can only surmise this to be a way for a young man to show his prowess to his sweetheart in a gift, along the lines of Welsh loving spoons, and did not find other utility objects given in this manner. Today, some men still carve paddles and use them as decoration in the house, gift giving and wall decoration extending biographies.

### **Identity:**

Frequently the Orang Ulu are viewed as a homogenous group, both politically and by many of the other ethnic groups living in Sarawak, sharing many elements viewed as identity markers, such as religion, ways of living, and symbols. Kjellgren (1999: 2) calls them Kenyah - Kayan and related groups. King found 'the striking similarities in social organization and symbols of rank among various stratified peoples of central Borneo. I find it useful in the comparative analysis of Borneo peoples to consider these societies together as one socio-cultural category.' (1985: 125). Only the Penan as a non-stratified hunter-gatherer group are usually seen as separate. Importantly all these ethnic groups see both themselves and each other as ethnically distinct. Having so many markers in common and yet differing in identity is directly in opposition to Harrison's view:

'Weiner [1992] drew attention to the way that identity often depends on maintaining an exclusive association with a distinctive set of symbolic practices, and preventing others from acquiring them. Extending her argument, I will suggest that it can rest also on maintaining an exclusive association with a distinctive set of symbolic practices, and thus crucially,

on the power to prevent those defined as outsiders from reproducing these markers of identity.’ (1999: 243)

I hold that for many, identity cannot be viewed as a specific distinction or exclusive in this way, much is based on what Kondo describes as ‘the fundamental connectedness of human beings to each other.’ (1990: 9). This is particularly the case for smaller ethnic groups like those found in the *Ulu*.

Rowlands points out ‘There is... a long held belief that objects can be said to stand for cultures and the amount you have of ‘your own’ cultural objects (cultural heritage) is a measure in some sense of relative cultural complexity.’ (2002:121, also Svensson 2008). If this is to be believed then the various groups within the Orang Ulu umbrella would be culturally simple, which is not the case. As there are so many overlaps between material culture assemblages I argue that peoples’ identity cannot be judged by objects alone, nor can they be said to stand for culture. They are only a part of what makes cultural identity and must be seen in relation to various other issues if identity is to be understood.

Cultural identity has to be based in part on the way the objects are used sociotechnically, together with factors such as dress, language, religion, belief, custom, the way people perceive themselves, their community and others within the wider region. Accordingly, cultures of the various ethnic groups making up the Orang Ulu are strong and complex.

Lave sees personal identity formation as ‘Moving towards full participation in a community of practice [is] a matter of transforming one’s identity, which subsumes the learning of knowledgeable skill. The construction of new identities through participation implies constantly making sense of one’s everyday experience.’ (Lave 1992) and Wynn adds that ‘Because artisans also choose from a range of community standards, tools can act as indices of social groups’ (1994:155). Although I found that many tools transcend social groups,

involvement and participation does strengthen an individual's feeling of belonging to a particular ethnic group. Dobres explains:

‘Above all, technology is social practice. Technologies of material making and artefact use unfold during socially constituted practices that are embodied and made meaningful through the corporeal labor of communities of individual and collectively engaged technicians. Through their productive labors, technologies bind material, corporeal, and meaningful experiences of sentient makers and users to the flow of social life, values, collective history, and change. Technology produces not only functional and aesthetic objects; it simultaneously engenders self-awareness, forges social relationships, and both reaffirms and contests tradition’ (Dobres 2001: 48).

Although my research has found numerous similarities in the material culture assemblages identified as belonging to the Orang Ulu, I also found subtle variations belonging to particular ethnic groups. Not only are there finely drawn distinctions between manufacturing styles; but I also discovered each group to have one or two objects peculiar to it. Neither the Lun Bawang *lasok* (rice harvesting baskets), nor the *berenya* (purses) of the Penan are made by any other group, the other Orang Ulu do not even have items of similar design. The *lasok* is similar to baskets made by the Murut of nearby Sabah, ethnic associations and material culture assemblages are not constrained by state borders (Lun Bawang and Murut are closely related groups).

These subtle variations cannot be seen without asking specific questions of manufacture and exchange. As described many utility objects are sold locally and so to see an object in one community does not automatically mean it comes from there. It could have been purchased from another group or copied, or even be a hybrid, objects often being in a state of flux.

Some styles predominate in the Rejang river watershed, others are in the Baram region. With the exception of the Lg. Belaong Kenyah, I did not see the people of the Baram using a *keratang* (baskets), their preference being the *kelung gai*. Nowhere did I come across the use of the *kelung gai* on the Rejang, although



both baskets are used in much the same manner for heavy gardening work, and Kenyah and Penan live in both areas. Object style is not necessarily divided on ethnic, but geographical lines.

Some makers will put their own marks of identity on the objects they make. Lucy, an Eastern Penan, produces individual twists to her high quality finishes as does E'tin, a Kenyah Badeng, but this is unusual. Decoration often identifies ownership. Without lettering the designs themselves still identify ownership through symbolism, this was found by Sillitoe (1988: 544) 'So why, according to the Wola, do they ornament these objects? Quite simply to identify them as the owners' property. The designs they put on these items are their equivalent of name tags.'

#### **Storage Methods to Protect Organic Materials:**

Manufacture of many utility objects is complex and time consuming. Storing organic utility items is problematic, due to the many causes of degradation in this region: rodents, birds, lizards, insects, moisture, wear and crushing. Caring for these items, over a period of time is difficult, therefore, many objects are seen as transitory or 'throw away', made to last for one season only. Where people want objects for a longer period of time they employ various measures to preserve them.

Protective coatings such as *kadeng/ubur* prevent the ingress of moisture. Some farming utensils are required to last, such as baskets to store rice and winnowing equipment, often kept in farm sheds built on stilts. To prevent rats accessing these stores, large wooden discs (rather like plates) were traditionally placed part way up each stilt, their rims protruding on all sides; as rats cannot climb upside down, they cannot reach the store. Today it is more usual to see stilts wrapped in thin sheets of metal or vinyl flooring, which prevent rodents getting a purchase to climb the stilt.

In the kitchen, objects such as *bubu* (fishtraps), trays, sieves and drying mats are placed on shelves above the kitchen fire, the smoke deters insects and animals eating them and keeps them dry, preventing rot. Many objects are stored in roof spaces, but are subject to the above mentioned problems unless in the kitchen, where they again benefit from the preserving properties of smoke from the fire, which is built without a chimney (a roof flap or windows prevent an uncomfortable build up of smoke). Litad Selutan (pers. com. 2003) says the Lun Bawang will place baskets inside a sarong, tie it at the top and bottom, and hang it from a ceiling hook, stopping access by pests. Cut and dyed rattan is wrapped in fabric, usually an old sarong, to prevent light damage as many of the natural dye colours are slightly fugitive.

Many items are repaired by weaving in new strands, where old ones have become worn or broken, patches made from new weave or waterproofed cotton may be sewn into place.

### **The Continued Production of Basketry**

As basketry (and allied objects) are short lived in tropical areas, the continual need for items in the *Ulu*, for which there are no viable, more durable substitute, keeps the craft skills for manufacture very much alive. Many items are made on a yearly basis, such as harvest baskets and winnowing mats, although many survive from the previous year, some *ingen* (harvest baskets) may still contain what is left of the previous year's harvest and some mats may be used to dry other things such as pepper. Alternatives have not been found for many of the objects and where tried have not proved as efficient as traditional items.

Another reason for the continued use of locally made objects across the world is the difficulty in purchasing alternatives for many people, home-made items costing nothing.

The traditional items, manufacturing methods and knowledge belonging to the Orang Ulu still have important roles in these societies. Across the world, many items belonging to other peoples, of similar aspect to those discussed here, have been lost to the societies who produced them and are now only seen in museum collections. These objects face similar problems of preservation, including much of our own social history. Manufacturing, use and associated knowledge, for some, are no longer known. Preservation and documentation of such material culture for posterity falls to museum ethnographers and conservators.

In 2000 basketry was included in the Eco Textile Forum held in Sarawak, and as one of the forums at the IVth Ethnobotany Congress held in Turkey. As such basketry is now taking its place in a variety of diverse fields of study.

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Stockholm Environmental Institute.



# APPENDIX 1.

## GLOSSARY

According to Ethnologue (2005) there are 45 extant indigenous languages in Sarawak. Here I give a glossary of some of the languages belonging to the Orang Ulu groups with whom I worked.

Translations and spellings provided by:

### **KENYAH BADENG**

Darie Linchaw, Asang Lawai, Lydia Ngerung, Okang Lepun  
& the people of block H, Lg. Geng.  
Margaret - Lg. Mejawah

### **KELABIT**

Lawai Tu'uh, Salalang, Tama Pun Mengga, Sina Buad Arun,  
Peterus Raja, Rosna Jok - Lg. Lellang  
Rose Gerau - Bario.

### **PENAN**

Saloma, Stanley (Pen) & Rinai Jalong, Peterus Bong - Lg. Main.  
Catherine Lajo, Rebeka Nyato and Kelawing - Marudi.  
Tony John - Lg. Sa'it.

### **LUN BAWANG**

Litad Selutan, Seluma Taie, Abu & Vivien - Lawas

### **KEJAMAN**

Paul, Jani & Helda Tivoi & Sabai - Lg. Segaham

**PUNAN BAH** Frank - Lg. Mejawah **SEKAPAN** Paul Tivoi

**UMA BAKAR** Kolat & Eden

**UPPER BARAM KENYAH** Salalang, Helen Ding, Lucia Asa

**LG. BELAONG KENYAH** Rosna Jok & Asong

**BERAWAN** Meran Surang **BHUKAT** Darie Linchaw

**PENAN TALUN** Ping Tiju & community

**LAHANAN** Labung

# GLOSSARY OF WORDS BELONGING TO THE MAIN GROUPS IN MY RESEARCH

ENGLISH	KENYAH BADENG	KELABIT	PENAN (Baram)	LUN BAWANG	KEJAMAN LASAH
air pipe	batang posan	liup apoui	---	abpa' paip	---
air pump	opa posan/bayu	---	---	abpa' pam	---
awl	solat	wat	sulat	wat	ny'van
baby carrier	bak/bening	agau	agau	agau	beneung
bag (closed weave)	blanyat	---	serut	uyut	bi'yuong
bag (open weave)	blanyat	ajat ranat	serut majat	kerawang	bi'young
bag (square base, closed weave)	bayut	---	gawang	bai	---
<b>Bambusa</b>	bulok/bidu (split)	bulok	bolo	bulu' /puren (small)	budou
bark resin	nyaleng	ubur	lusing	---	---
barkcloth	sapai	talun	talun	talun	---
barkcloth beater	pin bak	tutuk	---	tutuk talun	---
base (spiralled)	lilit	---	lotok serut	---	---
base frame	tempan	reken	ilo	raken	---
base/bottom of a basket	abut	bukar	lotok	raken	---
basket (for fruit)	Gai	ah'ap	---	---	ti'in
basket for sago	bayut	ah'ap	---	---	---
basket for cooked rice	sa'ap	ah'ap	ah'ap	bekatan nuba	---
<b>Basung</b>	basung	---	---	basung	---
bead	enok	manik	---	---	---
beadwork	aban	ba'o	talem	ngook bau	e'hou
binding strip	kaput	rat	jered	---	---
birdcage	buankiking	belalung	---	belalung suit	---
<b>Bire</b>	birai	bire	---	kelemucan/lebayan	---
black	saleng	mitam	padan/padeng	mitem	---
blade	nyatap	alang	atap	yu	---
blowpipe	keleput	put	keleput	eput	---

ENGLISH	KENYAH BADENG	KELABIT	PENAN (Baram)	LUN BAWANG	KEJAMAN LASAH
boat	alut	alud	---	alud	---
bowl (woven)	keratang	ah'ap	ah'ap	keb pang	ti'in
box (woven)	kiran	---	---	keb pang	kiran
bracelet	lekok	lekok	selungan / jong	leku	---
brush	brut	apuh	kulai	berus	---
cast net	te jala	pedala	jala	r'abat	---
chicken baskets	buaneyap	belalung la'al	belalung / jalaneyap	belalung lai	ageng
coconut spines	tetuk	dalin elat	---	luh don piasau	---
corner	tikung	lidung	ete / tikong	lidung	---
cover / lid (wooden)	ngep	kekap	tekup	kekeb	---
<b>Cyperaceae</b>	tehka	sier	sier	sier / kerubet	---
dammar	tekipai	nateng	nyateng	ilu'	---
dart	langgan	paril langgan	tahat	langan	---
dart container	telok langgan	selungan	terlo'	telungan	---
dart head holder	urung	rabuh kerak	tabo	ber-i-kara'	---
<b>Decranopterix linearis</b>	namam	resam	kevalan juhit, kevalan & irop	liputung	lekou / galeung
design	pengancam	(b)arit	betek	arit	---
design (continuous)	sakabek	---	sega'it	barit	---
document tube	telok	deluk	bolo senang	beru	buan
<b>Donax arunda</b>	lematung	sebililit	bewan	babelit	bai / bivan
door	pamen	bupuu	usit	tanga	---
eight	aya	waluh	ayah	waluh	---
fan	aping	berau	pesong	bebper	---

ENGLISH	KENYAH BADENG	KELABIT	PENAN (Baram)	LUN BAWANG	KEJAMAN LASAH
field/farm	ladang	sibu'u (Fruit garden), latih (rice farm)	terek	lati ba' (wet padi), lati tana lun (hill padi farm)	---
fish keepers	tebung	belalung luang	---	---	---
fish trap	bubu	bubuh	---	bubuh	---
five	lima	limah	limah/lemah	limah	buwow
flower	bunga (Malay)	bunak	bunga	bunga'	---
four	pat	epat	pat	epat	---
frame (for weaving)	luan	iring ayit	kayeu maten kivan	keted bakang	---
frame for back	lung	atan ayit	likuk	atan bakang	---
hammock	tekiyok	atui	sevitut	patoy	---
handbag	kope	---	---	tayen	---
harvest basket (conical)	---	bu'an budok	bu'an	lasok	---
harvest transportation basket	ingen	bu'an	ingen	bu'an	---
harvest(stationary) basket	ingen atet	bu'an	ingen	reng	azat
harvesting basket	ingen	benen	bu'an	tayen	---
hat central decoration	okek	budok ra'ong	---	budok rong	azat (plaid)/azat ceak (plain)
headband	tapung ujan	senguluk	---	tengelai uluh	ukak
heavy duty baskets	keratang	kelung gai	---	asang	---
heavy duty rucksack	keba anyam	ayit (wei pendwei)	selabit	bakang	---
(stripped rattan)					---
heavy duty rucksack (whole rotan)	keba kaleng	ayit (wei tebuoro)	kivan	berkang	balekan
hook	pesi	keluwit	ja'ang	wang keluit	---
hoops of split rattan	tekoleng	bepan (+ basket name)	---	---	---

ENGLISH	KENYAH BADENG	KELABIT	PENAN (Baram)	LUN BAWANG	KEJAMAN LASAH
<b>Hornstedtia scyphifera</b>	tepo' / tetek	layun / ubud buan	umbut	layun	---
hundred	ato	ratu	ja ratu / jah ato	meratu	---
insert strands (pairs)	tu'ang	mutubuh	telo'o	nubu'	barang
knife	pueh	yu	penat / nahat	yu'u	kree
knife handle	sa'up	tunan (yu)	kayeu sa'up	tunan	---
knife / hoe	belawing	---	---	yu'u	onyang
ladles	kadai sintuk	keduit	akit	keduit	---
leaf for wrapping rice	miuk	da'un isip	ujung jup	don	---
legs	taket	kukud	gum	kukud	---
<b>Licuala valida</b>	sang	elat	sang	ilad	se'ang
lid for basket	sa'ap	kekup bu'an	---	kakeb	---
loops	kisew	lalid / dalit	kematak	lalid	---
machete	bai'ng (shorter) / parang (longer)	tunui	po'é	karit	edeung
making (rim)	sa'at leng (rim)	---	---	meped	---
mans hat	tapung ucuk	tapung delaih	tapong lakei	tupi'	---
mat (for drying)	ngetau	ugam	ta'ing / ugam	ugum ngerawih'	liang
<b>Metroxylon sagu</b>	napu	balau	balau	kebieh	---
net (cast)	pokat	pokat	pukat	---	---
netting	law'a / umpong	eyap	---	rabat	---
nine	pien	ewak	pien	liwa	---
one	ce	da	ja	ache	---
paddle	besai	besai	besai	bué	pelda'
<b>Pandanus</b>	da'a	kaber	ra'a	kaber	da'a

ENGLISH	KENYAH BADENG	KELABIT	PENAN (Baram)	LUN BAWANG	KEJAMAN LASAH
people		lemulun	kelunan	iung	---
pestle and mortar	kelunan (in design - oyat) lu & lesung	lungin (yung - pestle, aluh - mortar), for rice - tubuk	song	aluh	lesoung
poles for collecting fruit	tusuk	repat bua	kayeu sok	bukul	---
porcupine quill	bulu setung	bulu terutung	sulat tetong	buluh terutung	buluyow tetuong
pot stand	senap	tapi lajang	nyun lajang	---	---
punt poles	teken	terkan alud	teken	teken	---
purse	lumpit	begusin	pihan/beranya	kapil	---
rail for a gawang	---	---	jawan	---	---
raincoat	tengesang okong	samit tukong	samsek okong	samit	saruong
resin (from insects)	---	---	---	periangat	---
rice (dehusked)	bah	beras	pari	bera	---
rice (with husk)	padi	padi	parai ketem ipa	pade'	---
rim	sa'at	mepit	ujun	beped	---
ring ( for finger)	angko	tissing	tissing	susing	---
ring (for basket)	ulat	---	ulat	---	soldat
<b>Rattan</b>	wei	wei	wai	wéé	gwei
rattan ball	sepak takraw (Malay)	bol wei	---	---	---
sago (wild)	napu	kenangan	uvut	---	---
sago bowl/plate	Kiut	---	nao	nangeh'	---
sago pith/ sago pith bung	muan	ra'o	lat (bung)	paul	---
sago stirrers	---	---	atip na'o	gugo	---
scoop net/fish scoops	law'a	a'ok	---	eyep	sarap
seed baskets	krien	saging	ingen	buku'	---

ENGLISH	KENYAH BADENG	KELABIT	PENAN (Baram)	LUN BAWANG	KEJAMAN LASAH
seed/harvesting basket	krien	bu'an	ingen	---	---
seven	tuju	tuduh	tuju	tudu'	---
sheath	sua (short)/ bureng (long)	binan	taking	binan	---
shuttle for netting/measure	sang'ga/belidah	ewan/a'ad	---	etan	---
sides/edge	osa/sada	ering	---	sikuan	---
sieve	eleng	agag	ileng	agag	elik
single weave (Malay, meaning eye)	mata	mata	maten	mata	mata
sitting/interior floor mats	pat lapit	tika lampit	mak	ugum wei	---
six	nam	enem	n'm	enem	---
skewer	tetuk	pull	solo	abpul	---
sleeping mat	pat	pin inan rudap	mak	ugum-rudap	---
small general baskets	bakun	ah'ap	---	saging/buku'	---
spatula/rice paddle	baa	bugo	tuang	gugo	---
spear	nyatap	busu	atap	gaman	---
spinning top	gasing (Malay)	gasing	---	gasing	---
storage sack	barang	kalban	---	tebpung	---
strapping (horizontal)	---	belipid bu'an	tatip	eret	---
strapping (vertical)	taket ingen	berpit kukun bu'an	tatip	repit	---
straps	ay	telaiah	ter linan	tengalai	we'i
string	tali	nupar	tali	nuber	---
string for straps	saat	rabar klaih	kermitan	silib/tengalai	---
stringing	kelepat	---	---	tengalai	---
sun & rain Protector	kelawak	samit tokong	samit okong	samit bukut	---

ENGLISH	KENYAH BADENG	KELABIT	PENAN (Baram)	LUN BAWANG	KEJAMAN LASAH
sunhat	sa'ung	ra'ong	sa'ung	rong	c'uong
tapioca	ubi	ubi	ubi	ubi-war	---
ten	pulok	pulu'	pulok	pulu'	---
thinning tool	janggal	prue	pe jat/me jat	meru (variant)	janggal
thousand	ibu	ribu	ja ibu	meribu	---
three	telu	teluh	teluo	teluh	---
tobacco holder	kiran	tik (made in bamboo)	turkek/tetek	selapa'	---
tongs	ntang	pit	atip	epit	---
tray	daya	---	---	talem	te'eun/tape arua
two	dua	duh	dua	duh	---
water trough	tan padem	tabang (made in bamboo)	---	beau'	---
weave	jeman	tenganuh	kutek	nenganu	---
weave (horizontal plaid)	belata	---	kutek teperket	tenganuh' nurat	---
			kutek pejek	tepalang	
weave (vertical plaid)	alé	---	mesek - closing weave	tenganuh' nurat tuped	---
weave hammers and pulls	tapek	wat	(using fingers or sulat)	netel	kegwit/pukpuak
winnowing tray	tapan	tapan	tapan	r'inh	tapan



# GLOSSARY OF WORDS FOR THE REMAINING ORANG ULU GROUPS VISITED

ENGLISH	PUNAN BAH	SEKAPAN	UMA BAKAR KENYAH	UPPER BARAM KENYAH	BERAWAN	BHUKAT	PENAN TALUN	LG. BELAONG KENYAH	LAHANAN
harvesting basket	alat	adzat	ingen	ingen	---	ingen	ingen	ingen ajen	---
headbands	---	---	---	---	---	---	---	---	tapau
heavy duty baskets	alat penari	---	---	---	---	---	keratang	oyat	keratang
heavy duty rucksack	---	---	---	berkang anyam	---	---	---	---	---
(stripped rattan)	---	---	---	---	---	---	---	---	---
heavy duty rucksack	kiyang	---	keba kaleng	berkang kalung	---	---	---	---	---
(whole rattan)	---	---	---	---	---	---	---	---	---
insert strands (pairs)	---	---	---	---	---	---	---	tu'ang	---
knife/hoe	---	---	---	beluing	---	---	---	---	---
ladles	sirok laluk/ tavi' nyoh	---	---	---	---	---	---	---	---
legs	---	---	---	---	---	---	---	---	ngum
<b>Licuala valida</b>	lelap	---	---	---	---	---	---	---	---
mans hat	---	lawong tepo'	---	tapung da'a	---	---	---	---	---
mat (for drying)	ou	pan	---	---	---	---	---	ta'ing	---
<b>Metroxylon sagu</b>	balong/orok (wild)	---	---	---	---	---	---	---	---
pestle and mortar	lu'ow & lu'ong	---	---	---	---	---	---	---	---
raincoat	---	---	---	tengesang okong	---	---	---	---	---
<b>Rattan</b>	---	gwai	---	---	---	---	---	---	---
sago (wild)	orok	---	---	---	---	---	---	---	---

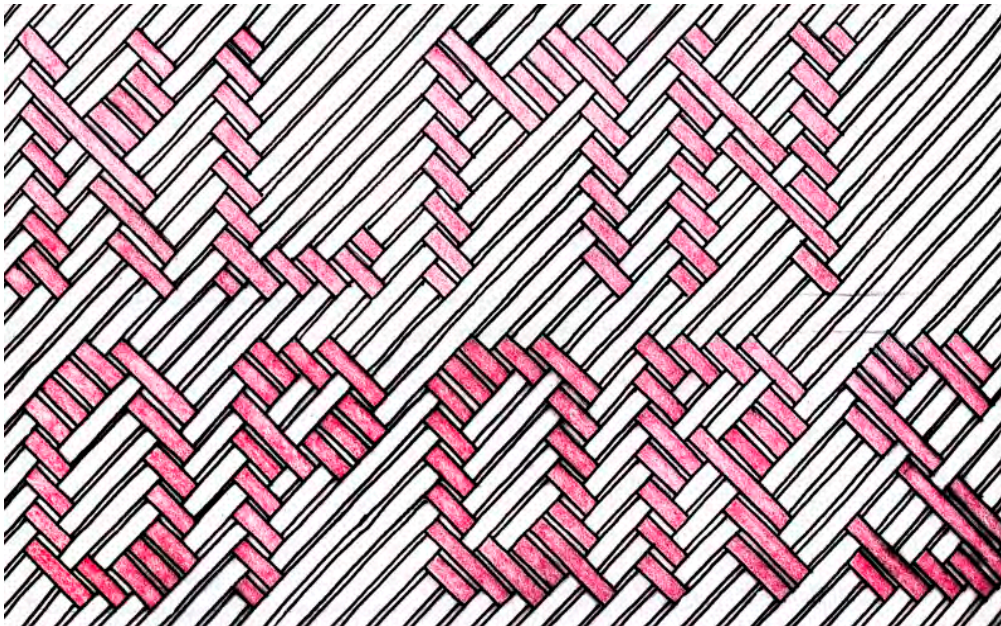
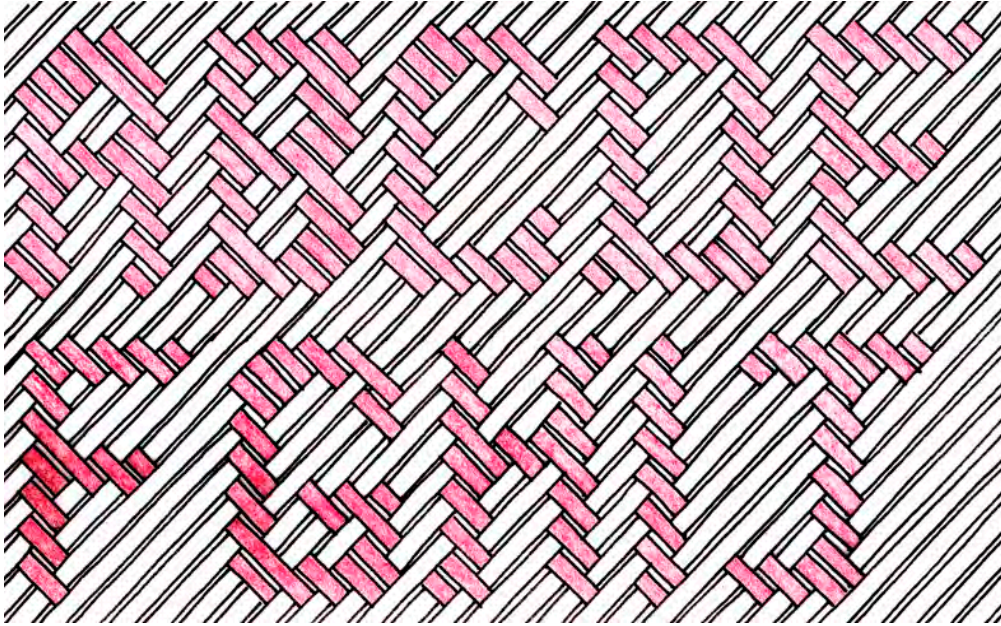
ENGLISH	PUNAN BAH	SEKAPAN	UMA BAKAR KENYAH	UPPER BARAM KENYAH	BERAWAN	BHUKAT	PENAN TALUN	LG. BELAONG KENYAH	LAHANAN
sago bowl/plate	lulang	---	---	---	---	---	---	---	---
scoop net/fish scoops	penari/siak jarung	---	---	---	selambau	---	---	---	---
seed baskets	tyo	---	krien	---	---	---	---	---	---
seed/harvesting	julujuk akar	---	---	---	---	---	---	---	---
basket									
sieve	ta'at	ka'ayak	---	agag	---	---	---	---	elik
single weave (Malay, meaning eye)	mata	mata	mata	mata	mata	mata	mata	mata	mata
sitting/interior floor	ou	---	---	---	---	---	burat	burat	---
mats									
spatula/rice paddle	a oh	---	---	---	---	---	---	---	---
storage sack	---	---	---	barang	---	---	---	barang	---
straps	---	wei	---	---	---	---	vee/veehay	---	---
sun & rain	---	---	---	---	---	---	---	kelawak	---
protector									
sunhat	---	ce'uong	sa'ung	sa'ung	---	---	sa'ung	sa'ung	si'ing
tray	---	---	---	---	---	---	---	daya	---
weave hammers and pulls	ou'ong & tatong	---	---	---	---	---	---	---	---
winnowing tray	tapan	tapan	tapan	tapan	tapan	tapan	tapan	tapan	tapan

## **APPENDIX 2**

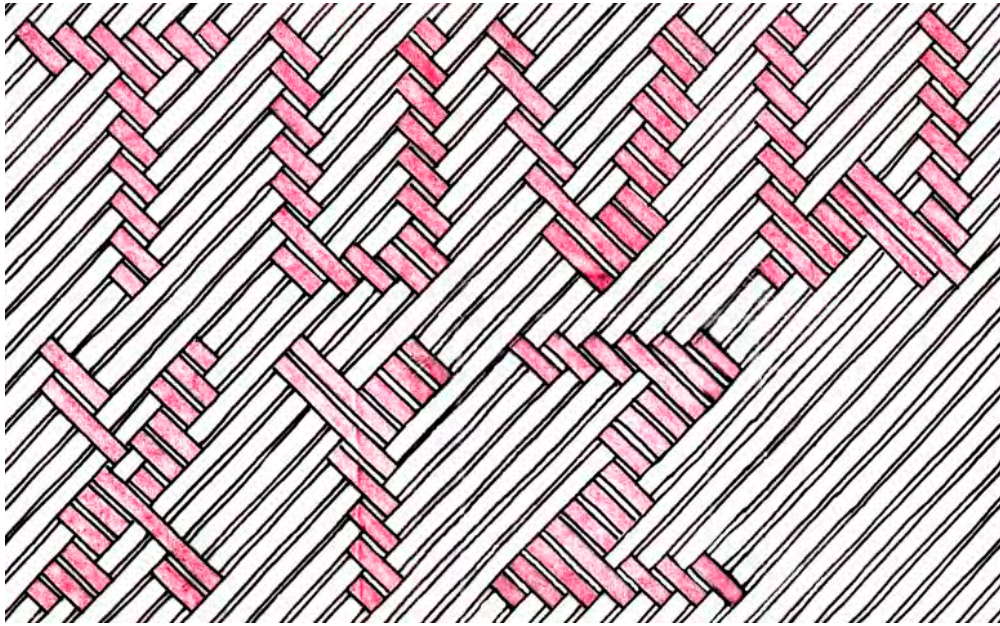
# **LETTERS AND NUMBERS AS A WEAVE DESIGN**

(Produced by me as a template for Saloma Jalong at Lg, Main)

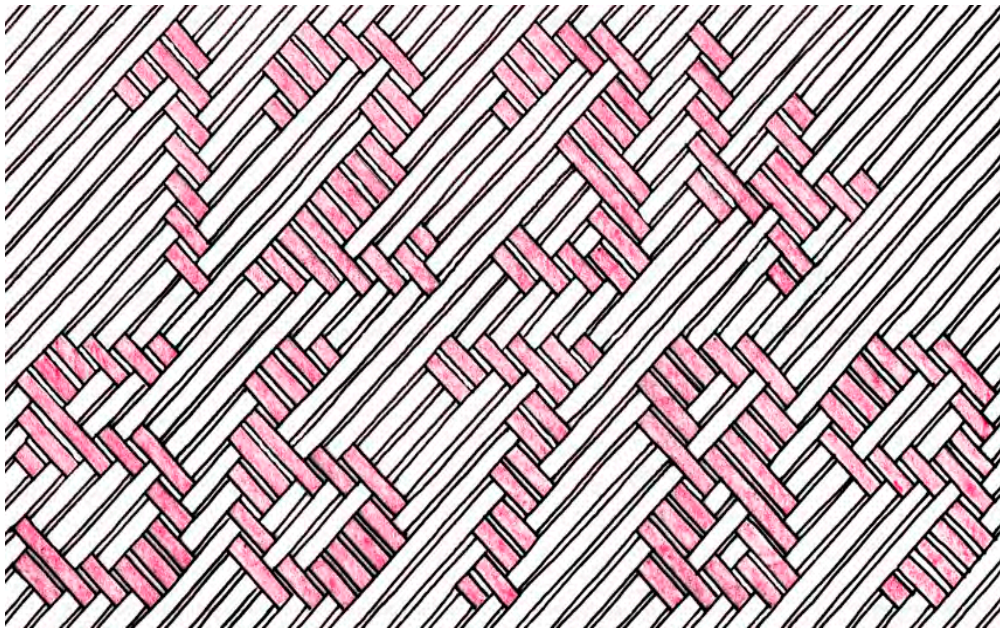
### An Example of the Alphabet as a Weave.







An Example of Numbers as a Weave.



## **APPENDIX 3**

# **TWO PERSONAL VIEWS ON THE PRESENT AND FUTURE OF TRADITIONAL CRAFTS**

## CURRENT VIEWS

### **Dorothy Busak**

Added to her skills in modern basketry, Dorothy Busak produces traditional beadwork costumes for people. Her costumes are used as heirlooms, for dance troupes, whom she often choreographs, and for special events.

Dorothy Busak is striving hard to keep Kelabit traditions alive for the next generation, whilst earning a small living. She says that stylistically the Orang Ulu costumes are becoming hybrids, with Orang Ulu groups arguing over ownership of the various designs (*arit*). Although personal family designs have now almost completely died out she is trying to bring this tradition back within her community, especially at family gatherings. She works hard to purify the designs as much as it is possible thus keeping the traditional Kelabit design ethos alive, this in turn helps to ensure that the traditional culture is preserved.

Dorothy Busak herself learned and learns by watching and reproducing, this is a conscious decision on her part after spending a lot of time when she was a child with the Penan and seeing how their traditions differed. Although hybridisation is occurring she does feel that different groups prefer different colours, the Kelabit liking yellow and orange/brown, whereas the Penan often choose blue. This preference for colour and the hybridisation of designs can be seen now within the manufacture of traditional baskets today.

She very much wants to see that all Kelabit women possess a traditional dress and accessories. 'Accessories are almost always found to be part of the dowry given to the bride by her husband's family and include the beaded skull cap and belt'(pers. com. Rose Gerau (Kl.) 2002). Dorothy Busak feels that if these traditions and the designs die out then the Kelabit as a separate people will cease to exist, like so many others, becoming only a part of the umbrella group

‘Orang Ulu’. She wants to prevent this from happening to their identity and race and therefore works very hard to preserve these traditions and encourage others to do the same. She was ‘born as, loves the identity of, and is proud to be a Kelabit... They are different from the others’ (pers. com. Dorothy Busak 2004).

In keeping traditions alive Dorothy Busak understands that some changes do need to be accepted in line with preserving the natural surroundings and environment; to this end she has been one of the prime movers trying to preserve the hornbill a protected bird, by assimilating new materials into traditional objects. Traditionally the feathers of this bird were used to make the rosettes worn on both hands of female dancers. A tradition of many of the ethnic groups belonging to the Orang Ulu. It takes approximately four hornbills to produce one pair of rosettes - *buluh bernenang* (Kl.). The feathers therefore are bought and sold as a commodity and cost between RM2-3 per feather. When given a batch of white turkey feathers from the U.S.A. (purchased by various Government groups working together on the preservation of native fauna) she set about, through experimentation to find out how best to colour them with the bands of black and white found on the Hornbill feathers; she found that the only suitable method was by spraying them as this best preserved the texture of the feather whilst giving the correct degree of colouration. From these she can now produce the rosettes for sale, earning around RM60 a set, to the many dance troupes found in northern Sarawak. It is this adaptability which will help in her quest to preserve the traditions and identity of the Kelabit people. Dorothy Busak does however emphasise that these are her personal views on the needs of the community in relation to their identity and are not necessarily those of the community as a whole.



## Litad Selutan

Litad is a Lun Bawang living in Lawas. Along with various other business interests, she owns a small tailor and craft shop in Lawas town where she herself works and a craft kiosk at Lawas airport, run by her niece Vivien. She has contact with Sarawak Craft Council and others involved in the sale of indigenous craft work and has helped to encourage the sale of Lun Bawang crafts in other areas.

Litad is very worried that the knowledge of production for traditional objects is disappearing rapidly; citing the *bekang* as an example, according to her only one elderly man - Balang is now producing this type of carrying basket, he is working in the Ba' kalalan area and sending his produce to her when transport is available, (the drive taking many hours). Occasionally items can be sent by twin otter, but this is very dependent on baggage space as there is only one flight per day. It is not definitely known whether Balang, a Lun Bawang is in fact from Sarawak or whether he comes from across the border in Kalimantan, bringing his work with him for sale.

She personally feels that as so far nothing has been done to preserve this traditional knowledge it will die out, but says that now the people are beginning work to preserve the costume with the aim at keeping their culture and heritage alive as it is distinct from the other groups. This gives some hope for the production of craft items, providing the skills are not lost first. Discussions presently are being held about the design criteria for beadwork and the patterns found on costumes. Consultation is being carried out with Lun Bawang groups outwith Sarawak, in Sabah (Where they are known as Murut), Kalimantan and Brunei Darussalam. It must be noted that only the rich can or could afford to have beadwork costumes due to the expense. The makers of many of these beads are also hard to find, but work has been done in the area

of Lg. Tuma, by Litad Mulok of Kraftangan Manik Keramik, to help local people learn the ceramic techniques. Labo Tuie is one proficient producer of these beads. Previously also, trade played a large part in the collection of more valuable beads, good beads being exchanged for buffalo etc. depending on their perceived value, this barter no longer occurs. Although to the untrained eye the head-dress is very similar to those worn by the Kelabit, the bead style is different.

‘Nothing is being done so far to get young people interested in learning craft skills and added to this is the problem that of those people able, production of crafts is only carried out when they have the time’ (Litad pers. com. 2004).

**APPENDIX 4**

**OBJECTS PURCHASED**

**FOR THE**

**DEPARTMENT OF**

**ANTHROPOLOGY**

**COLLECTION**

**UNIVERSITY OF DURHAM**

UNIVERSITY OF DURHAM ANTHROPOLOGY  
DEPARTMENT



**COLLECTION No.** MDB 01, Durham  
no.1736

**OBJECT NAME:**

*Blanyat Kayan* (Kenyah Badeng) Bag

**COLLECTION DATE:** 27.03.07

**BUYER:** Marieanne Davy Ball

Purchased from: Maker

**PRODUCTION BY:**

Kenyah Badeng

Uma Badeng, Long Geng,  
Sungai Koyan, Belaga District,  
Sarawak, Malaysia.

**MAKER:** Siung Ejam

**COST:** RM. 30.00

**DIMENSIONS:** 20 x 10 cms

**MATERIALS:** Rattan & plastic string

**DESIGN:** Banded patterns.

From the top down:

*dilok* - snake

*anyam* - weave

*mudung* - mountain (a new name)

*anyam* - weave

*bunga* - flower

*anyam* - weave

*mudung* - mountain (a new name)

*anyam* - weave

*dilok* - snake

*anyam* - weave

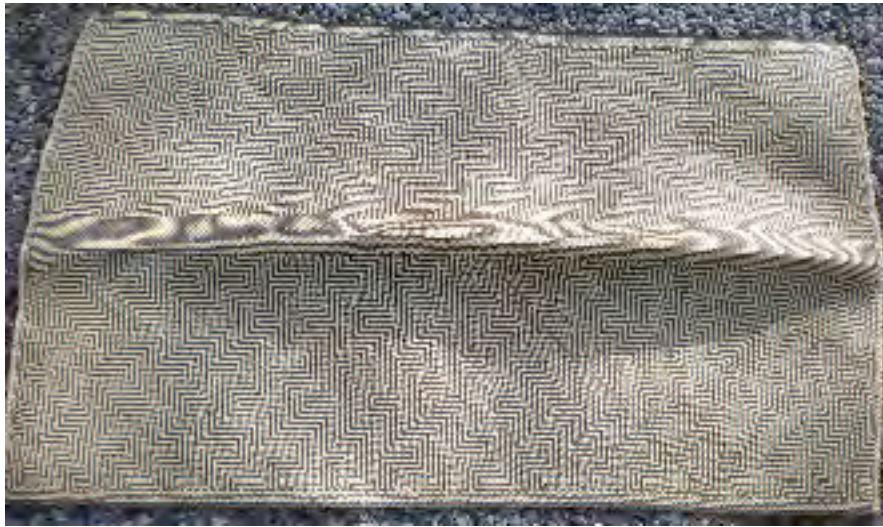
*anyam deng* - vertical weave

**FURTHER INFO:** This style is copied from the Penan *serut*. It is used for general carrying during travel and for the collection of small items from the forest.

The Kenyah Badeng produce the black colouration by boiling the rattan with a selection of leaves and river mud. It is then hung up to dry in the shade. Once dry the mud is washed off.



UNIVERSITY OF DURHAM ANTHROPOLOGY  
DEPARTMENT



**COLLECTION No.** MDB 02, Durham  
no. 1737

**OBJECT NAME:**

*Mak* (Penan) Sleeping mat

**COLLECTION DATE:** 09.04.07

**BUYER:** Marieanne Davy Ball

Purchased from: Maker

**PRODUCTION BY:**  
Penan

Long Main, Baram District,  
Sarawak, Malaysia.

**MAKER:** Rinai Bong

**COST:** RM 350.00

**DIMENSIONS:** 179 x 112 cms **MATERIALS:** Rattan

**DESIGN:** Zigzag pattern.

**FURTHER INFO:** This pattern has been recently introduced to the Penan from a sleeping mat produced by the Kayan in the collection of Muzium Sarawak. The Penan produce the black colouration by boiling the rattan with a selection of leaves then coating it with river mud. It is then hung up to dry in the shade. Once dry the mud is washed off.



UNIVERSITY OF DURHAM ANTHROPOLOGY  
DEPARTMENT



**COLLECTION No.** MDB 03,  
Durham no. 1738

**OBJECT NAME:**

*Gawang* (Penan) Bag

**COLLECTION DATE:** 11.04.07

**BUYER:** Marieanne Davy Ball

Purchased from: Maker

**PRODUCTION BY:**  
Penan

Long Main, Baram District,  
Sarawak, Malaysia.

**MAKER:** Lucy Miri

**COST:** RM. 30.00

**DIMENSIONS:** 35 x 22 cms

**MATERIALS:** Rattan

**DESIGN:** Checkered pattern. Including:  
*Mata juhit* - birds eyes,  
*Iko bayah* - crocodile tails

**FURTHER INFO:** This basket is used for  
general carrying during travel and for  
the collection of small items from the  
forest.

The Penan produce the black colouration  
by boiling the rattan with a selection of  
leaves then coating it with river mud. It is  
then hung up to dry in the shade. Once  
dry the mud is washed off.



UNIVERSITY OF DURHAM ANTHROPOLOGY  
DEPARTMENT



**COLLECTION No.** MDB 04, Durham  
no. 1739

**OBJECT NAME:**

*Ingen* (Penan Talun) Rice harvest  
basket.

**COLLECTION DATE:** 29.03.07

**BUYER:** Marieanne Davy Ball

Purchased from: Maker

**PRODUCTION BY:**

Penan Talun

Uma Penan Talun,  
Sungai Koyan, Belaga District,  
Sarawak, Malaysia.

**MAKER:** Julan

**COST:** RM. 30.00

**DIMENSIONS:** 43.5 x 38.5 cm

**MATERIALS:** Rattan

**FURTHER INFO:** This basket is  
used during the rice harvest to  
carry the freshly cut *padi* stalks  
in the fields and to transport  
them to their stores.

The Penan Talun produce the red  
colouration on rattan either by  
boiling it with rattan fruit or by  
using the fruit in the same manner  
as a crayon.

Penan Talun *ingen* have a crossed  
base formed by the legs, this acts  
as a secondary base, other *ingen*  
with this style of base have flared  
sides.



**UNIVERSITY OF DURHAM ANTHROPOLOGY  
DEPARTMENT**



**COLLECTION No.** MDB 05, Durham  
no. 1740

**OBJECT NAME:**

*Blanyat* (Penan)

**COLLECTION DATE:** 02.04.07

**BUYER:** Marieanne Davy Ball

Purchased from:  
Laurences Trading  
Long San  
Baram District  
Sarawak, Malaysia

**PRODUCTION BY:**  
Penan Sepati

**MAKER:** Unknown

**COST:** RM. 30.00

**MATERIALS:** Rattan & nylon string

**DIMENSIONS:** 35 x 23 cms

**FURTHER INFO:** This basket is used during the collection of forest products and when collecting vegetables from the farm. The basket expands to accommodate the load.



UNIVERSITY OF DURHAM ANTHROPOLOGY  
DEPARTMENT



**COLLECTION No.** MDB 06,  
Durham no. 1741

**OBJECT NAME:**

*Pueh* (Penan) machete  
*Penat* (Penan) knife  
*taking* (Penan) sheath

**COLLECTION DATE:** 02.04.07

**BUYER:** Marieanne Davy Ball

Purchased from the maker, who  
was in visiting Lg. San to sell  
several examples of his work.

**PRODUCTION BY:**  
Penan

Long Beku, Baram District,  
Sarawak, Malaysia.

**MAKER:** Unknown

**COST:** RM. 20.00

**DIMENSIONS:** Total length 58 cms,  
width 6 cms

**MATERIALS:** Steel, wood, sago spath, rattan, dammar, plastic and a  
seed.

**FURTHER INFO:** The sheath for the small knife is produced from sago  
spath sewn around the edge and held in place with the plastic strapping.  
The button to hold the belt in place is made from a large local seed. The  
sheath is worn at the waist with the knife positioned outer most.

These knives are multi purpose tools for use in the forest, village and  
farm, for clearing, weeding, butchering, the preparation of weaving  
materials etc.

# PHOTOGRAPHS

## CHAPTER 2

### MULTI-SITED FIELDWORK: THE ORANG ULU



pl.2.1. The Kenyah Badeng village of Long Geng, Asap.





pl.2.2. The Punan Bah village, Rejang River.



pl.2.3. The Kelabit village of Long Lellang, with the airstrip and area primary school.





pl.2.4. The Penan village of Long Main.



pl.2.5. The Penan village of Long Kramo', Baram.

# CHAPTER 3

## MATERIALS USED AND THEIR PREPARATION



pl.3.1. Darie Linchaw and Lydia Ngerong dying rattan using a black dye recipe.





pl.3.2. *Decanopterix linearis*.



pl.3.3. *lek* and *angko* produced from *namam*.



pl.3.4. A Penan from Lg. Belapan stripping rattan with a knife 28.11.1956 (Sarawak Museum Je/9).



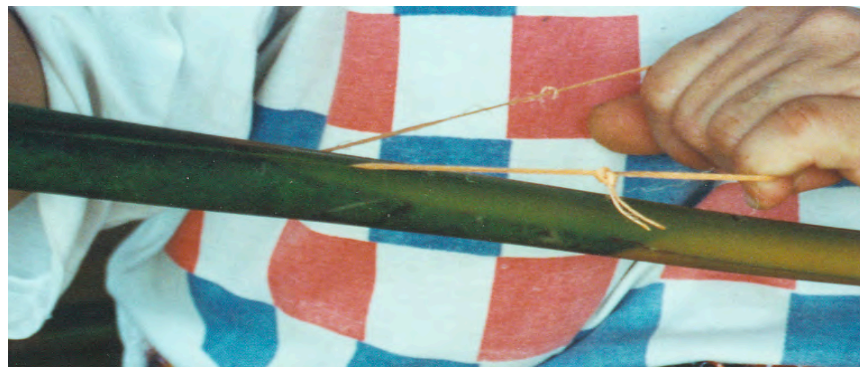
pl.3.5. A Penan Lusong woman stripping rattan with a *jangkat* and her rattan drying, June 1971 (Sarawak Museum Le/84-35).



pl.3.6. Rattan growing (photo. by Stanley Jalong).



pl.3.7. *Tepo'* (K.B.).



pl.3.8. Darie stripping *tepo'* (K.B.).



pl.3.9. Ludan preparing *tepo'* (K.B.).



pl.3.10. Salalang cutting the spines off the edges of *kaber* (Kl.).



pl.3.11. Salalang collecting *kaber* (Kl.)





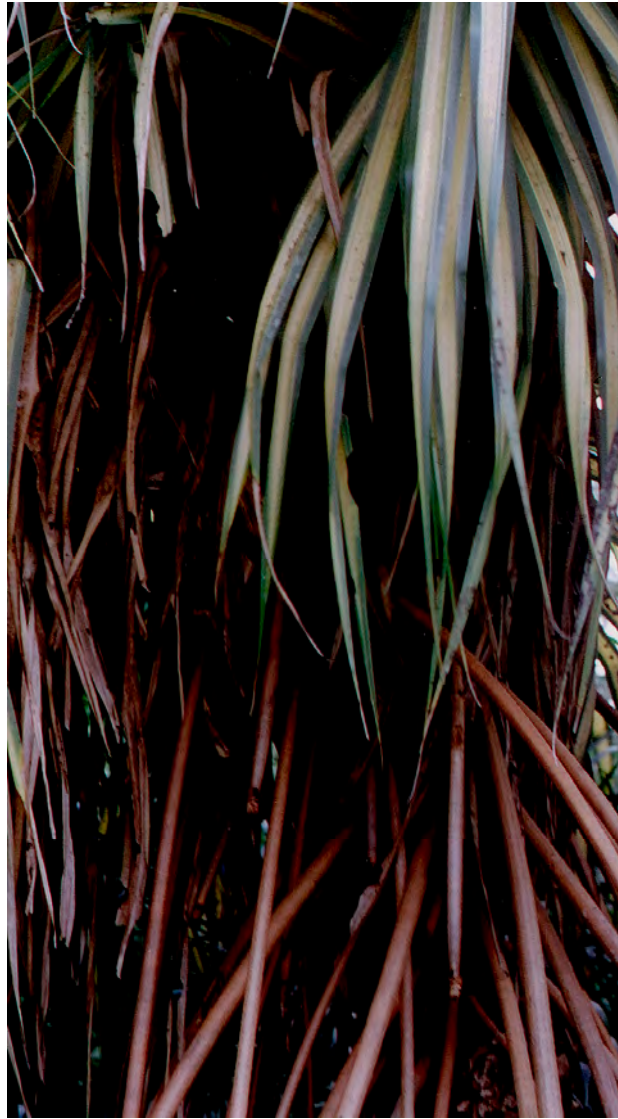
pl.3.12. Apoi and Salalang preparing *seblit* (Kl.)



pl.3.13. *Seblit* fading to silver when drying.



pl.3.14. *Biré* (Kl.).



pl.3.15.*Basung* (L.B.).



pl.3.16. Labo Tuie using a *tutuk talun* to beat the barkcloth until soft.





pl.3.17. A barkcloth jacket being worn in Lawas, 13.12.1958. (Sarawak Museum Ja/43)



pl.3.18. Plastics of various colours for sale in Kuching.



pl.3.35. A kelabit *bu'an* made by Salalang, coated with *ubur*.

pl.3.36. A Lun Bawang *tayen* coloured with paint.







pl.3.19. Asang Lawai heating up his forge (K.B.)

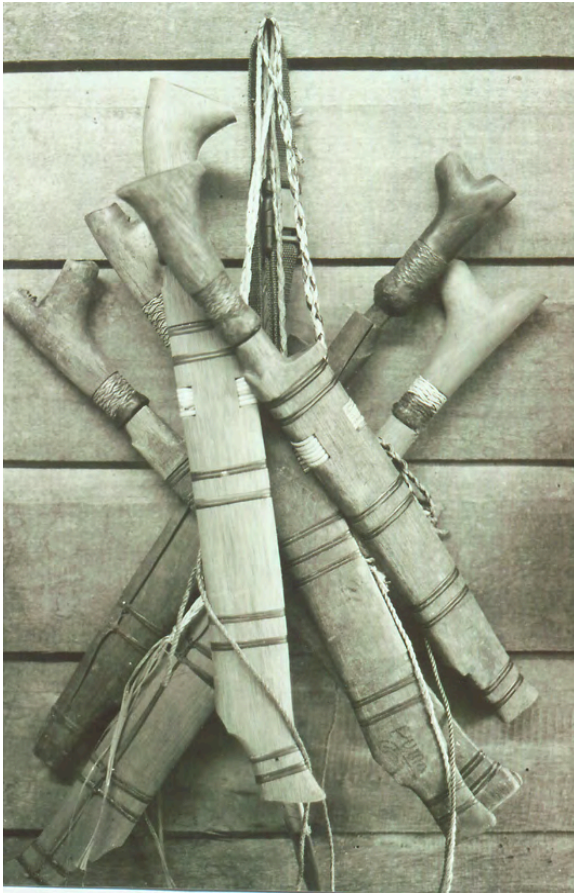


pl.3.20. A Kelabit, Tama Lawong blacksmithing, 5.10.1962 (Sarawak Museum Kd/35).



pl.3.21. Asang and Mendez blacksmithing (K.B.).





pl.3.22. *Parang* at Lg. Belaong.



pl.3.23. Asang sharpening a blade on a whetstone (K.B.).



pl.3.24. Asang shaping wood for a sheath (K.B.).



pl.3.25. Recess inside a sheath for a *parang* blade.



pl.3.26. Seloma, Lg. Main (P.) using a *megat*.





pl.3.27. Talan from the Kejaman with a sample of her *e'nou* work.



pl.3.28. *E'nou* work objects belonging to the Tivoi family, Kejaman.

pl.3.29. A Kelabit ceremonial barkcloth jacket with beadwork decoration from the Bario Highlands. Sarawak Museum (object no. 4456).







pl.3.30. Root giving yellow dye.



pl.3.31. Rattan being dyed with *udat*.



pl.3.32. *Bolo senang* (P.)  
coloured with *udat*.



pl.3.33. Vicky a Penan from Lg. Main  
collecting leaves for black dye.



pl.3.34. Seloma carrying Yamima whilst  
collecting bark for dyeing (P.).

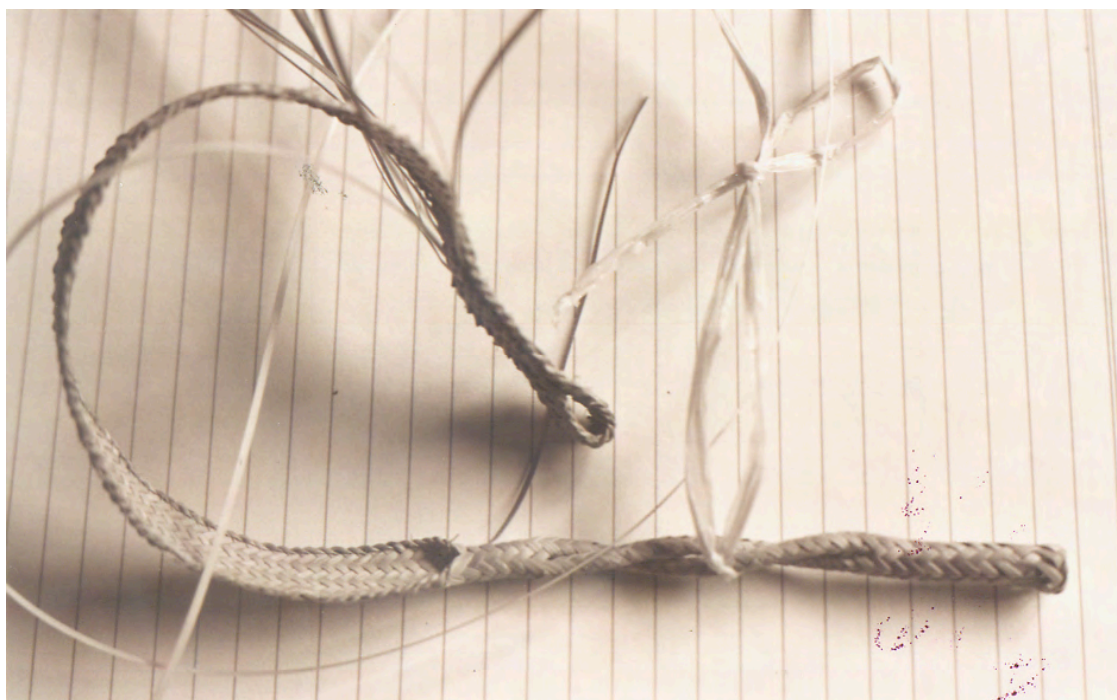
## CHAPTER 4

### WEAVING TECHNIQUES



Pl.4.1. Darie Linchaw weaving *tepo'*.





pl.4.2. *Ay aya* by E'tin (K.B.).



pl.4.3. Kejaman shoulder straps - *wei*.

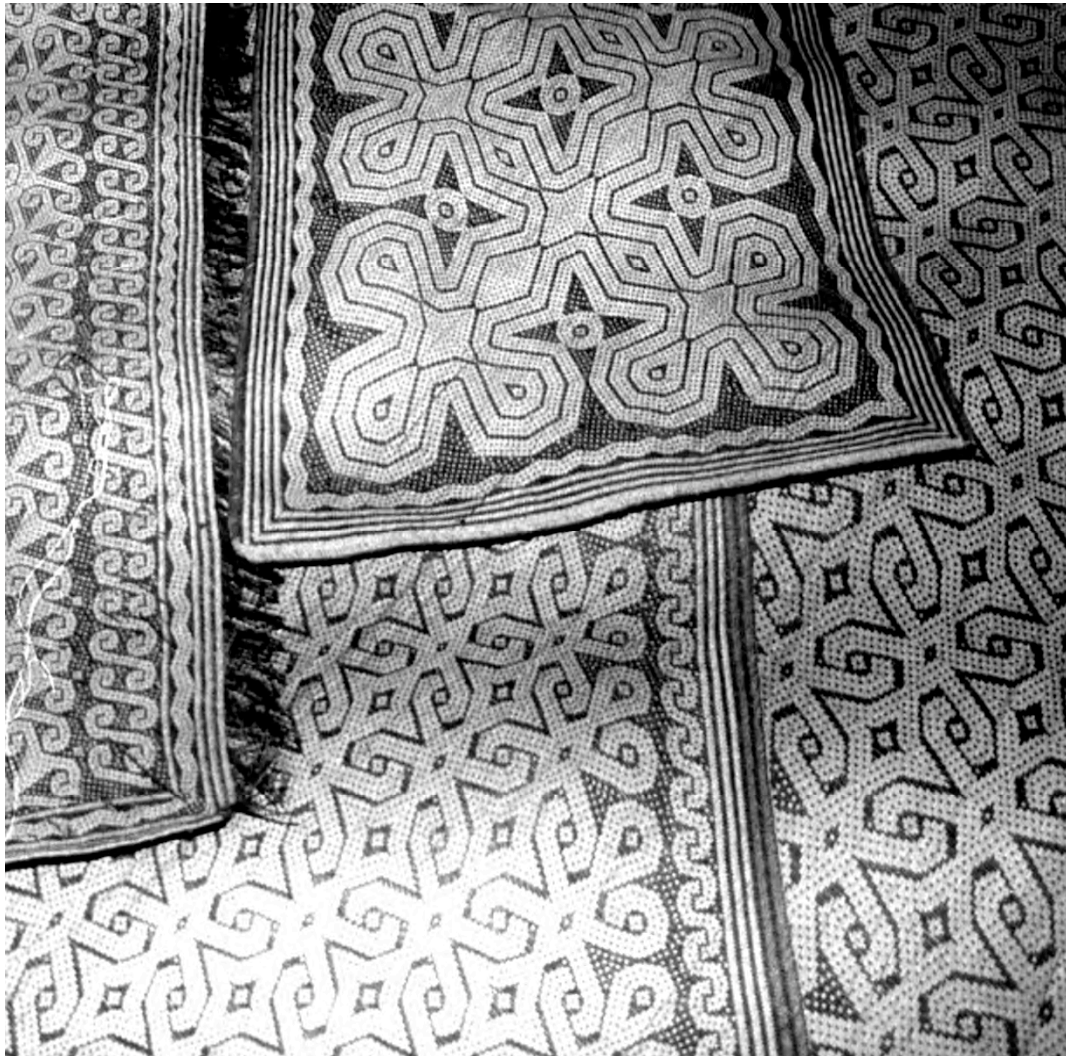
pl.4.4. *Selungan* by Ligin (P.) from Lg. Main.





## CHAPTER 5

### WOVEN DESIGNS



P.5.1. Various mat designs belonging to Rinai from the Penan at Lg. Main.



pl.5.2. Pattern distortion on a *gawang* made by Jari Linau from Lg. Benalih.

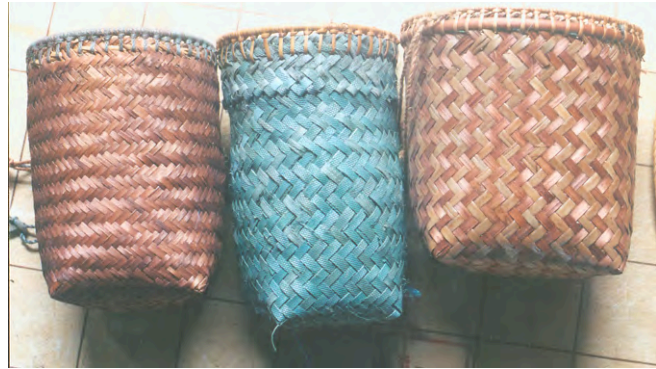
## CHAPTER 6

### RICE FARMING



pl.6.1. The Kelabit harvest, Bario 1947 (Sarawak Museum Ka/92)





pl.6.2. Three Kenyah Badeng *krien* with rims.

pl.6.3. Kenyah Badeng *krien* without a rim, made by Onyang.



pl.6.4. Two *krien* belonging to the Uma Bakah, made by Kolat showing use of plastic & rattan.



pl.6.5. Punan Bah *jujulok akar* made by Segina.



pl.6.6.Salalang from Lg. Lellang weaving a *saging* using an old example as a pattern and former.



pl.6.7. Salalang putting the rim of green rattan onto a *saging*. Note the *prue* attached to the stool.



pl.6.8. Kelabit *saging* made by Sina Buad Aran.





pl.6.9. Upper Baram Penan *saging*, made by Rebeka Nyato.



pl.6.10. Upper Baram Penan *saging*, showing the base, made by Rebeka Nyato.



pl.6.11 &12. Kenyah Badeng *ingen* and *abut ingen*. The design shows a butterfly pattern called *kapit ulut*.

pl.6.13. Two plastic Kenyah Badeng *ingen*.



pl.6.14 &15. Uma Bakah *ingen* and *abut ingen* by Kolat.





pl.6.16. Ping Tiju from  
the Penan Talun weaving  
an *ingen* over another,  
to act as a former.



pl.6.17. Penan Talun  
*ingen* without a rim.



pl.6.18. Kejaman *azat*.



pl.6.19. Kejaman *azat* base.





pl.6.20. Bhukat woman with an *ingen*.



pl.6.21. Punan Bah *alat* rim.



pl.6.22. Punan Bah *alat*.



pl.6.23. Punan Bah *alat* weave.





pl.6.24. A Sekapan woman weaving an *adzat* over another.



pl.6.25. Lg. Belaong Kenyah *ingen* ajan.



pl.6.26. Kenyah *ingen* from Lg. Tungan, made by Salalang.





pl.6.27. *Ingen* made by the Penan at Lg. Main.



pl.6.28. *Benen* base.



pl.6.29. Attachment weave.



pl.6.32. Lun Bawang *tayen*.



pl.6.30. *Tayen* base fittings.



pl.6.31. *Tayen* rim fittings.



pl.6.33. *Tayen* base.





pl.6.34. Sina Ngarawe  
a Kelabit from Lg. Kramo'  
with a *bu'an budok* made  
by her grandmother.



pl.6.35. *Bu'an budok* base, outside and inside.



pl.6.36. *Bu'an budok* rim detail and repair.



pl.6.37. *Bu'an budok*.



pl.6.38. A Lg. Belaong Kenyah *ingen bak* with lid.





pl.6.39. *Bu'an* Kelabit.



pl.6.40. *Bu'an* made for the Bario Kelabit.



pl.6.44. *Ra'ing* and *bu'an* hanging from the ceiling to store them in Lg. Kramo'.



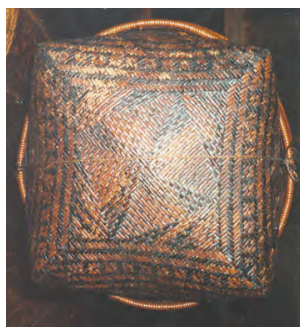
pl.6.41. A Kelabit *bu'an* base with attachments.



pl.6.42. A Kelabit *bu'an* with rim and strapping.



pl.6.43. A Kelabit *bu'an* with rim and attachments.



pl.6.45. *Ra'ing* lid.





pl.6.46. *Ingen / bu'an* hybrid by Salalang.(Kl.)



pl.6.47. *Ingen / bu'an* hybrid by Gadong. (Kl.)





pl.6.48. Samah starting a mat (K.B.).



pl.6.49. *Ou* by Siman a Punan Bah.



pl.6.50. Corner without chamfer and an external strengthening string.



pl.6.51. Penan *mak* corner during weaving.

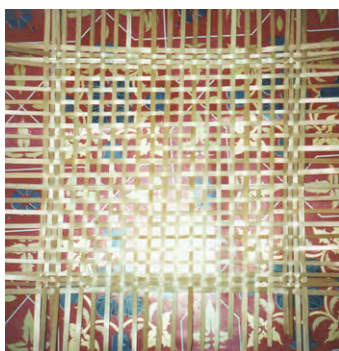
pl.6.52. Darie edging a Badeng mat.







pl.6.53. Darie Linchaw of Uma Badeng preparing *padi* for winnowing.



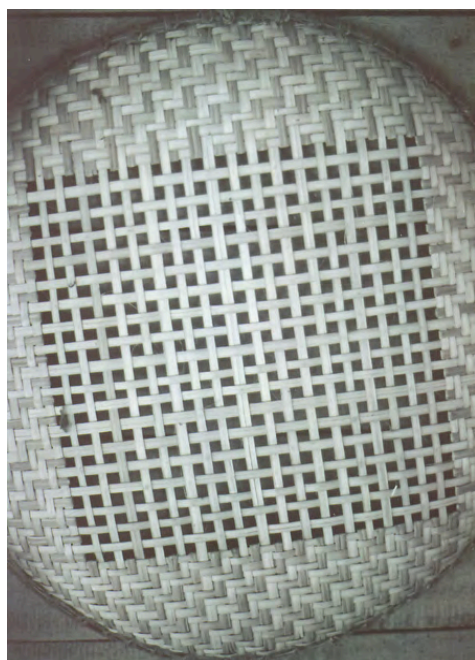
pl.6.54. Initial weave for a Kenyah Badeng *elung padi*.



pl.6.55. Complex rim weave on a Kenyah Badeng *elung padi*.



pl.6.56. Uma Bakah *elung padi*.



pl.6.57. Lahanan *elik*.

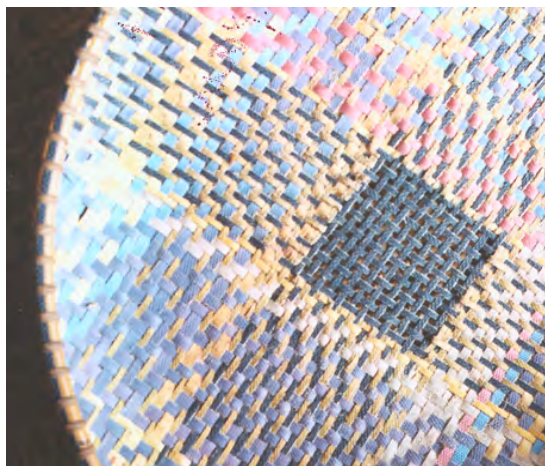


pl.6.58. Lg Belaong Kenyah *eleng*.

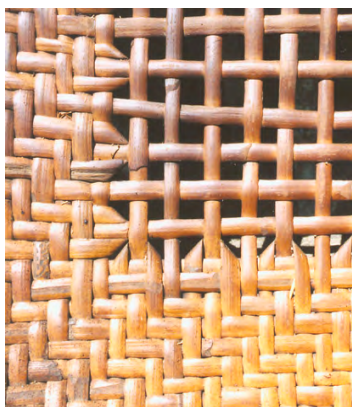




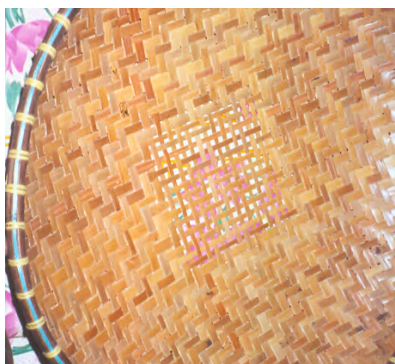
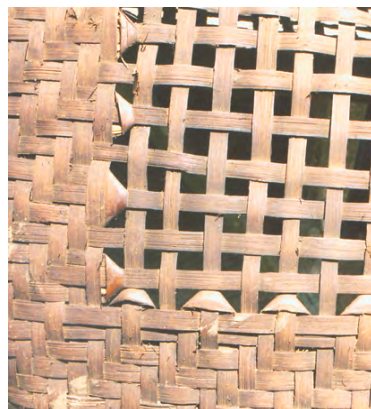
pl.6.59. The rim being attached to a Kenyah Badeng *elung bah*.



pl.6.60. Punan Bah *ta'at*.



pl.6.61. *Elong* weave, obverse and reverse by Salalang a Kenyah from Lg. Tungan.



pl.6.62. Sekapan *ka'ayak ba*.



pl.6.63. Siman a Punan Bah making a *tapan*.





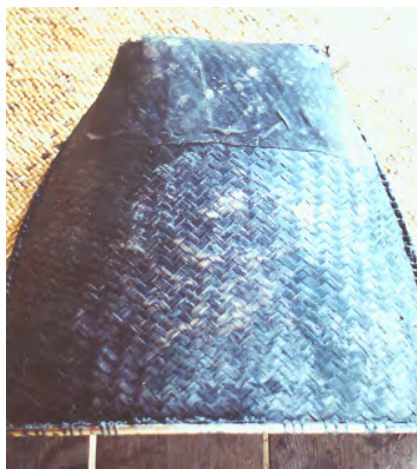
pl.6.64. Darie Linchaw winnowing *padi*.



pl.6.65. Darie from Uma Badeng Putting a rim onto a *tapan*.



pl.6.66. Darie from the Kenyah Badeng using a *tapan* to sort wild mushrooms.



pl.6.67. Inside and outside repairs to a Bhukat *tapan*.





pl.6.68. Sina Buad Aran from Lg. Lellang winnowing rice.



pl.6.69 Detail of a Kelabit *tapan*.



pl.6.70. Lun Bawang *rinuh*.



pl.6.71. Large pestle and mortar at Lg. Selapun, 05.05.1968 (Sarawak Museum Je/113).



pl.6.72. Wahir from Uma Badeng using a *lu* & *lesung*.



pl.6.73. Lg. Belaong rice hut used for storage.

## CHAPTER 7.

### GARDENING

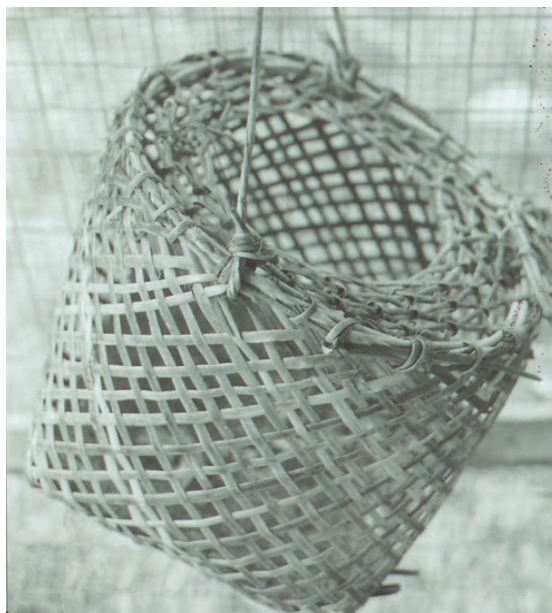


Fig.7.1. Darie Linchaw holding vegetables at her garden at Uma Badeng Lg. Geng, Sungai Koyan. Pepper and pineapple can be seen growing here.





pl.7.4. Kenyah Badeng *buaneyap* - type 2.



pl.7.5. Lg. Belaong Kenyah *buaneyap*.



pl.7.6. Lg. Kramo' Kelabit *belalung la'al*.

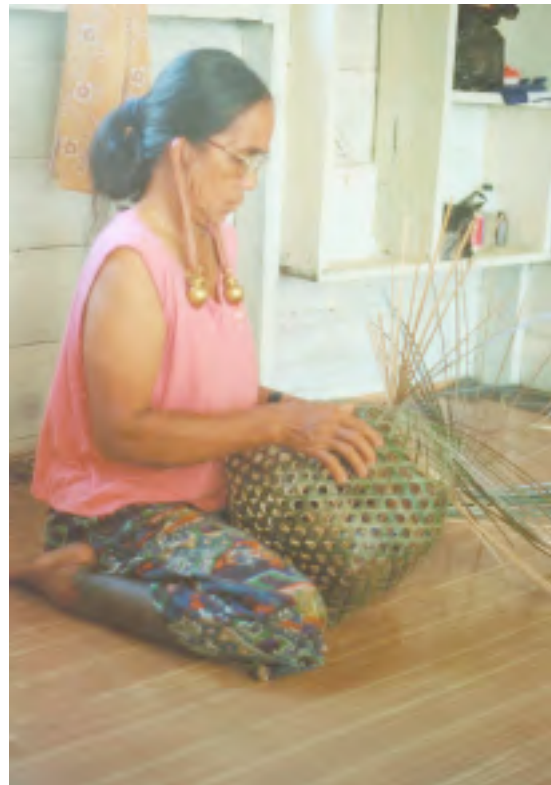


pl.7.7. Lg. Main Penan *buaneyap/jalaneyap*.





pl.7.8. Sina Buad Aran making a *belalung la'al* from bamboo.





pl.7.11. Kenyah Badang *gai* base weave and rotan support.



pl.7.12. *Gai* base without the base weave.



pl.7.13. *Kelung gai* made by Gadong (Kl.).

pl.7.14. Apoi making a *kelung gai* (Kl.).





pl.7.2. Cynthia and Rosna collecting fruit at Lg. Lellang.



pl.7.3. *Belawing* (K.B.).



pl.7.15. A *Kelung* from Lg. Seridan.



pl.7.16. *Kelung* weave detail.





pl.7.9. Punan Bah  
alat penari.



pl.7.10. Lahanan  
keratang.

## CHAPTER 8

### RAINFOREST & RIVER



pl.8.1. *Keba* and hunting dog at Lg. Belaong.



pl.8.2. A *ja'ang* on a *terlo* - Penan.



pl.8.3. Arrowhead holder, Lg. *Kramo'* (Kl.).

pl.8.4. Penan Busang, Lohat Tihin carrying *hissumpit* and *tabo*, June 1971. (Sarawak Museum Ld/8)



pl.8.5. Lohat Tihin preparing dart poison, June 1971. (Sarawak Museum Ld/10).





pl.8.6. Front and back of an *ayit wei teburow* belonging to Rose Gerau Bario Kelabit.



pl.8.7. The base of an *ayit wei teburow* from Bario.



pl.8.8. The back of an *ayit wei teburow* from Bario.





pl.8.9. Tama Kapong Aran a Kelabit from Lg. Kramo' wearing an *ayit wei teburo*.



pl.8.10. A very large *ayit* for carrying wild boar, being stored at Lg. Kramo' (Kl.).

pl.8.11. Various *ayit wei teburo* from Lg. Kramo' in store (Kl.).



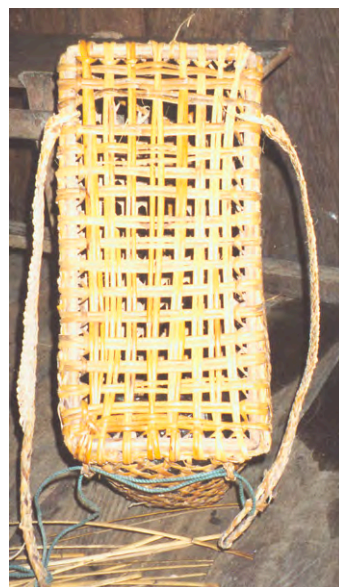




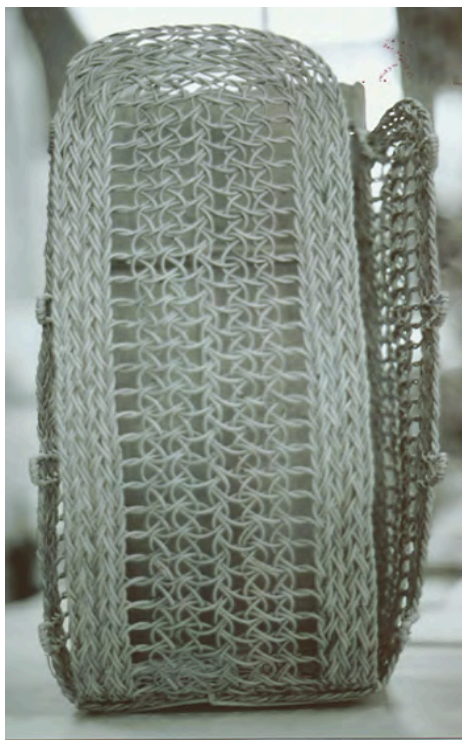
pl.8.12. A Penan Busang woman with a load of fire wood in her *kivah*, June 1971 (Sarawak Museum, Ld/105)



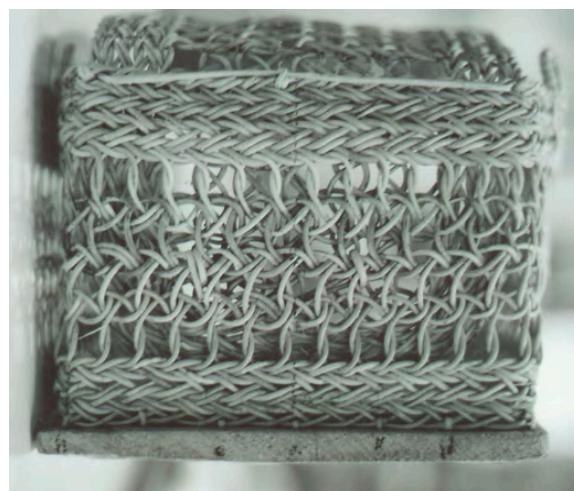
pl.8.13. Stanley Jalong with a load so large that it is distorting the door of his *kivah*.



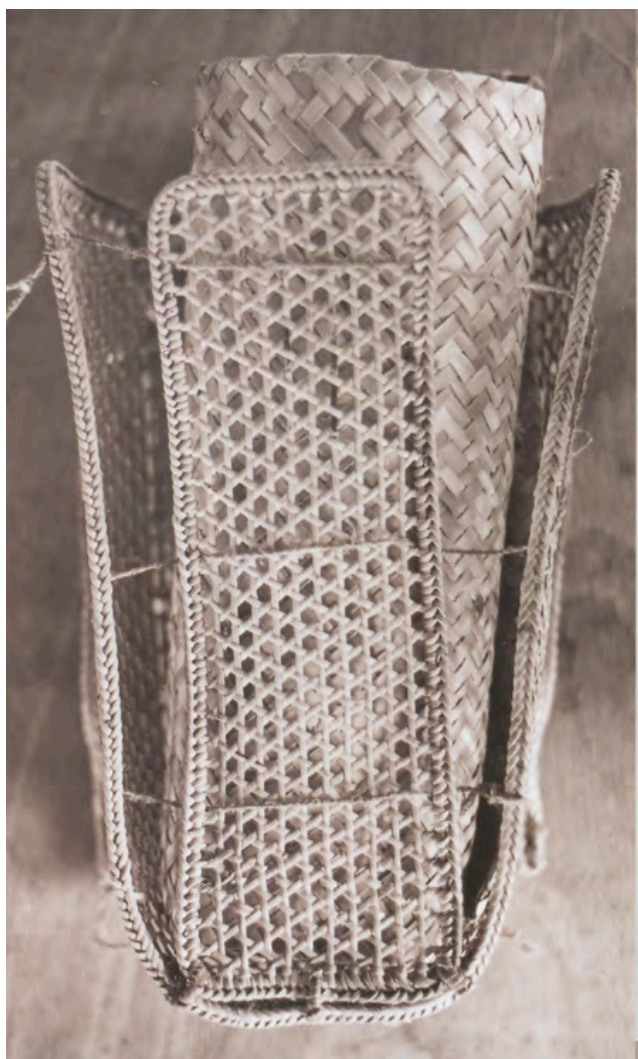
pl.8.14. Punan Bah *kivang*.



pl.8.15. Lun Bawang *bekang*.



pl.8.16. Lun Bawang *bekang* base.



pl.8.18. Toy *ayit* with a mat inside & detail of a corner (Kl.).

pl.8.19. Rose Gerau's school bag (Kl.)







pl.8.20. Tama Long at Pa' Lungan carrying a *terutong* (porcupine) in a carrier, 04.10.1962 (Sarawak Museum, Kf/128)



pl.8.21. Punan Bah *bubu*.



pl.8.23. Lid ties on a Kelabit *bubu*.



pl.8.24. Side ties on a Kelabit *bubu*.



pl.8.22. Asang (K.B.) making a *bubu*.

pl.8.25. Lun Bawang *bubuh*.



pl.8.26. Kelabit *bubu*.

pl.8.27. The view inside a Kelabit *bubu*.



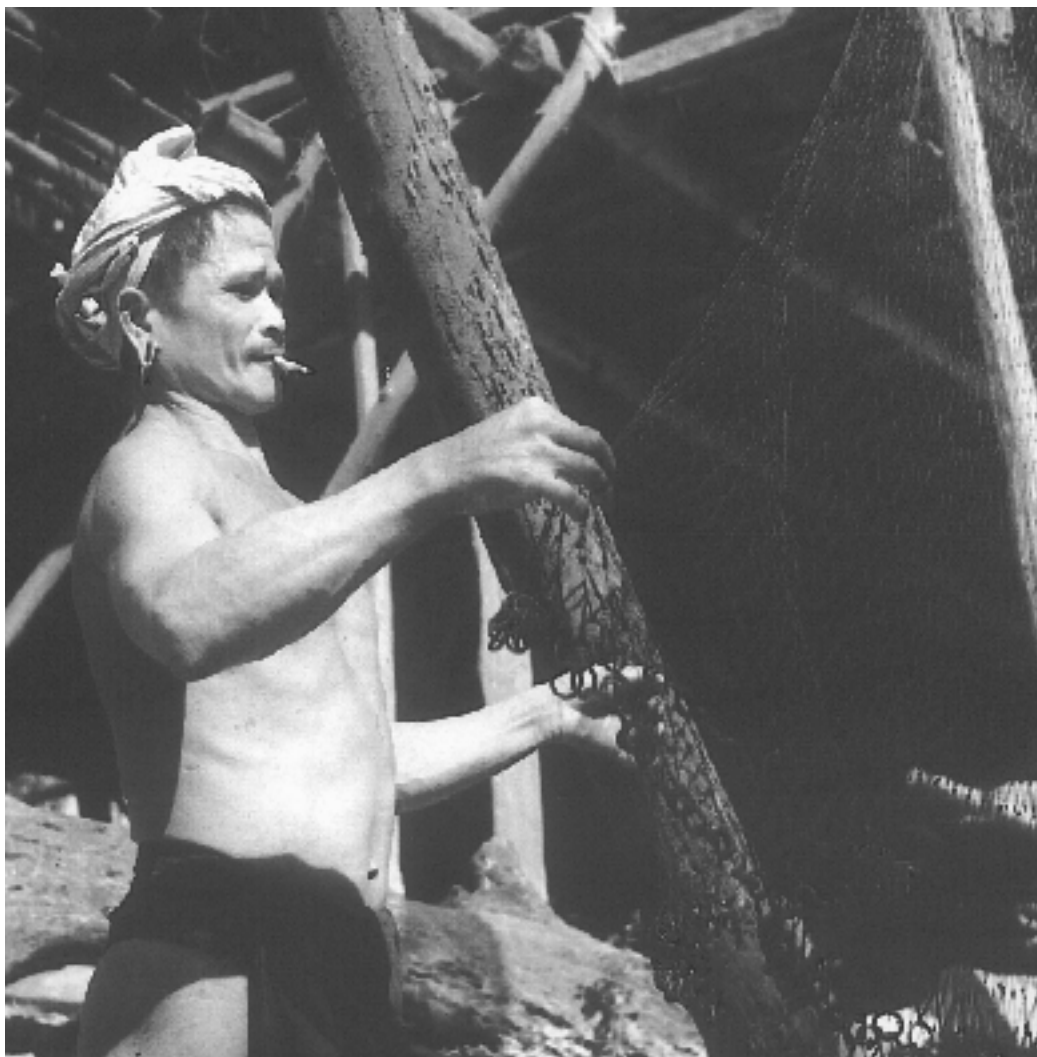




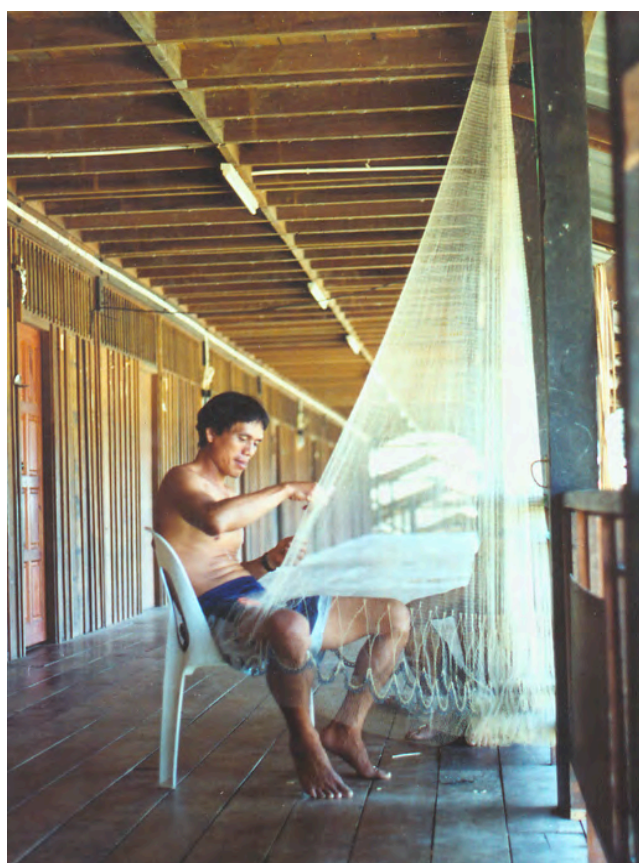
pl.8.28. Kenyah, Lg. Makabah, Baram, 09.04.1987. (Sarawak Museum Jd/316).



pl.8.29. Fishing with a *bubu*, 13.12.1956. (Sarawak Museum Jf/30).



pl.8.30. Galau, A Sebop man from  
L.g. Buvoi, Baram 26.11.1956.  
(Sarawak Museum Jd/9).



pl.8.31. Belawan making a *tejala* (K.B.).



pl.8.32. Darie making a net for a *lawa*.



pl.8.33. Sina Ulit, Bario,  
26.09.1962. (Sarawak  
Museum Kf/119).



pl.8.34. Using a *Lawa* at  
Lg. Jegan 13.12.1956.  
(Sarawak Museum Jf/28)



pl.8.35. *Lawa* (K.B.).

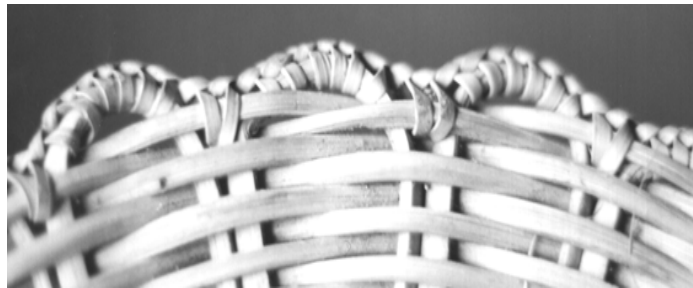
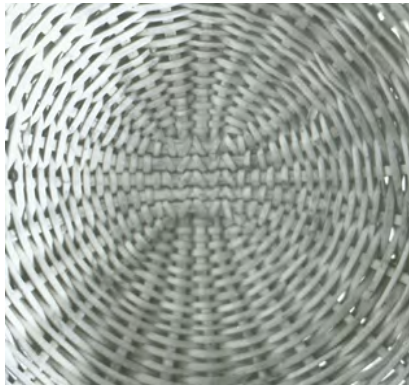




pl.8.36. *Jarong* (P.B.).



pl.8.37. *Jarong* (P.B.)



pl.8.38. Three closeup images  
of Punan Bah *jarong*.



pl.8.39. *Penari*  
(P.B.).



pl.8.40. *Siak*  
(P.B.).



pl.8.41. Berawan *Kerungan* and *Selambau*, Lg. Teru, Tinjar. 12.12.1956 (Sarawak Museum Jf/18)



pl.8.42. Berawan *kerungan* on a small boat.





pl.8.43. A Kenyah man from Lg. Makabah, Baram, carrying a *besai*. 09.04.1974. (Sarawak Museum Jd/321).



pl.8.44. Asang with a toy *besai* (K.B.).

## CHAPTER NINE

### THE HOUSEHOLD



pl.9.1. A kitchen view at Pa' Lungan showing several *ah'ap* and a *belalung la'al*, 04.10.1962 (Sarawak Museum Kf/66).





pl.9.2. *Daya* (K.B.)



pl.9.3. A *Kejaman ta'at*.



pl.9.4. Panyao Lawai making a *ta'at*, (Kj.).



pl.9.5. Corner detail of Lily's tray.

pl.9.6. Lily Sakun (P.). This basket has no name.





pl.9.7. Salalang making an *ah'ap* in *sebitit*.



pl.9.8. Salalang making an *ah'ap* in *kaber*.



pl.9.9. A plastic *ah'ap*.



pl.9.10. An *ah'ap* in rattan by Salalang.



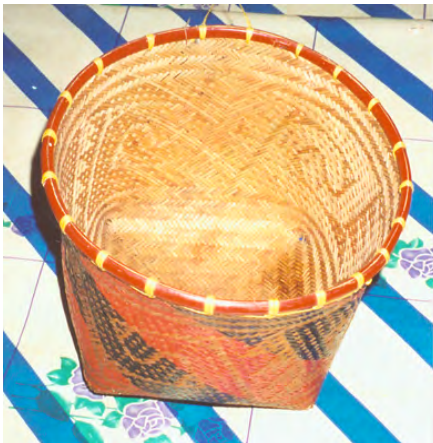
pl.9.11. Detail of a multi layered *ah'ap*.

pl.9.12. An *ah'ap* with it's lid in place.





pl.9.13. Sina Buad Aran  
wrapping rice in *da'un isip*.



pl.9.14. *Ti'in* made by Talan (Kj.)



pl.9.15. *Ah'ap* containing rice wrapped in *da'un isip*  
made to Sina Buad Aran.



pl.9.16. *Tebowwa Sekapan*.

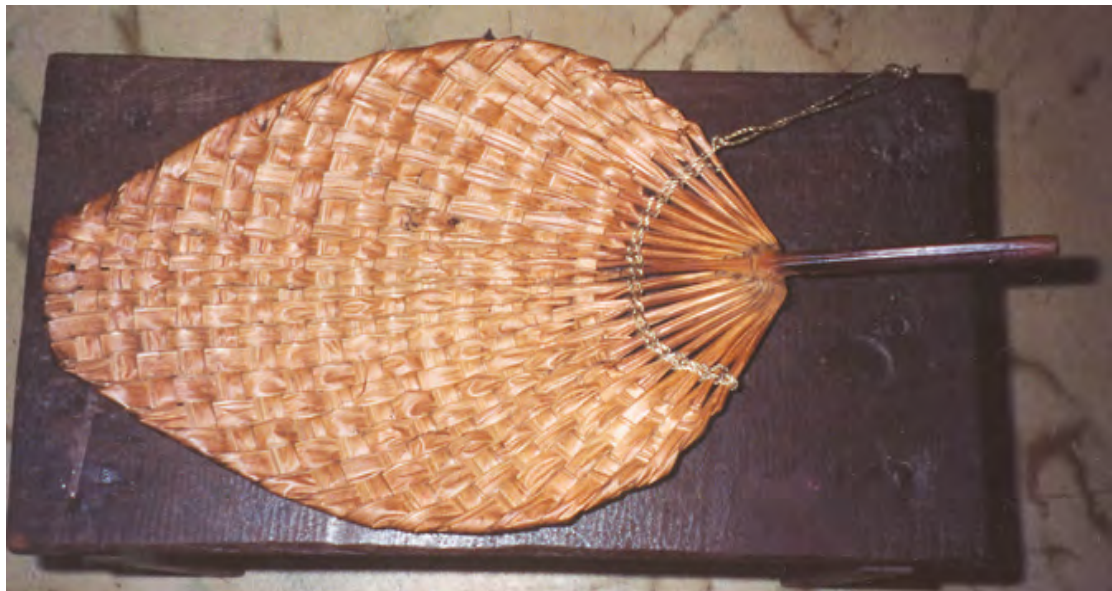


pl.9.17. *Tebowwa rim*, Sekapan.





pl.9.18. Kelabit *berau* whilst I was producing the weave..



pl.9.19. Kelabit *berau* made by Salalang.



pl.9.20. Ani Bala a Kelabit from Bario carrying water in containers up a ladder, 30.09.1962. (Sarawak Museum Kf/101).



pl.9.21. *Engup* made by Eden at Uma Bahah.



pl.9.22. *Tavi'nyoh* - Punan Bah.



pl.9.23. *Sirok laluk* - Punan Bah.



pl.9.24. Penan - *atip na'o* and *tuang*



pl.9.25. *Lu'ow* and *lu'ong* - Punan Bah.





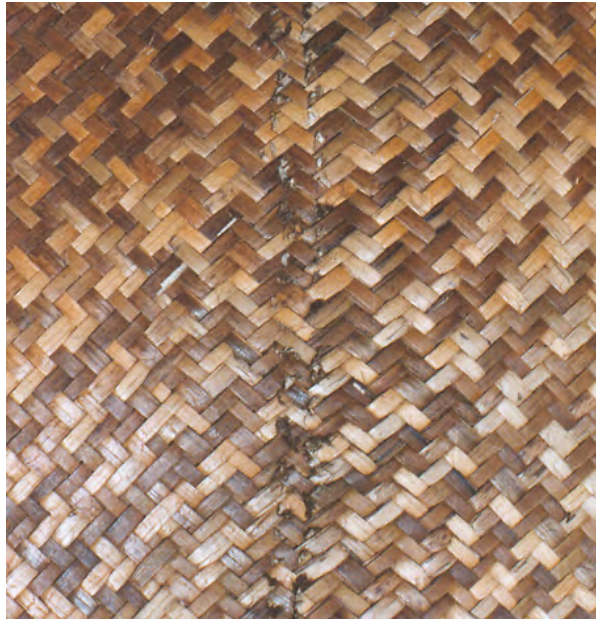
pl.9.26. Tama Pun Mengga stripping rattan for a *tika lampit*, April 2005.



pl.9.27. A Kenyah man from Lg. Makabah, Baram, 09.04.1978 (Sarawak Museum Jd/319).

pl.9.28. Kelabit *tika lampit* edge.





pl.9.29. *Sier* mat.



pl.9.30. Central weave at the edge on a Penan *mak*.



pl.9.31. A sample Penan design by Seloma.



pl.9.32. A sample Penan design by Seloma.





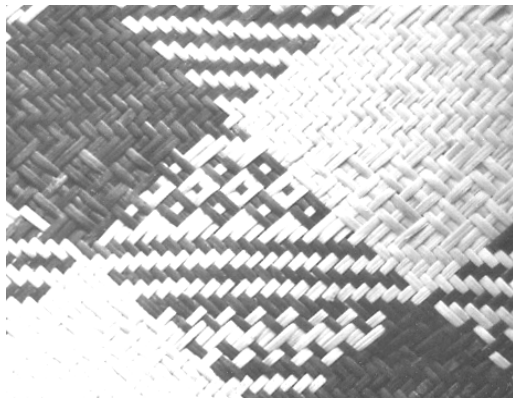
pl.9.33. A Penan Lusong woman weaving a *mak*, June 1971 (Sarawak Museum Le/79).



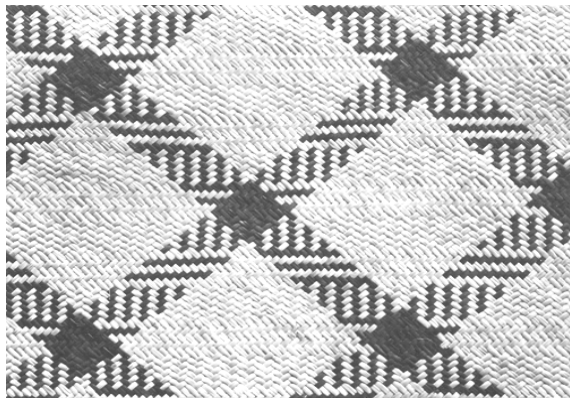
pl.9.34. Penan *mak* corner with a chamfer.



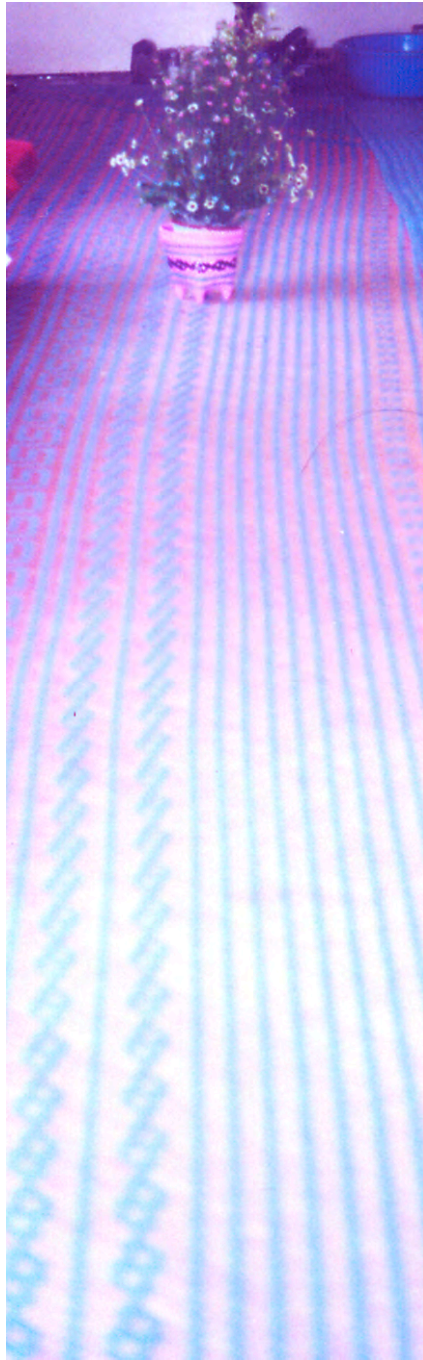
pl.9.35. Design from Lg. Kramo' (snake).



pl.9.36. Penan design (birds eyes).



pl.9.37. Penan design (check with crocodile tail detail).



pl.9.38. A mat made in plastic by  
Gadong from Marudi.



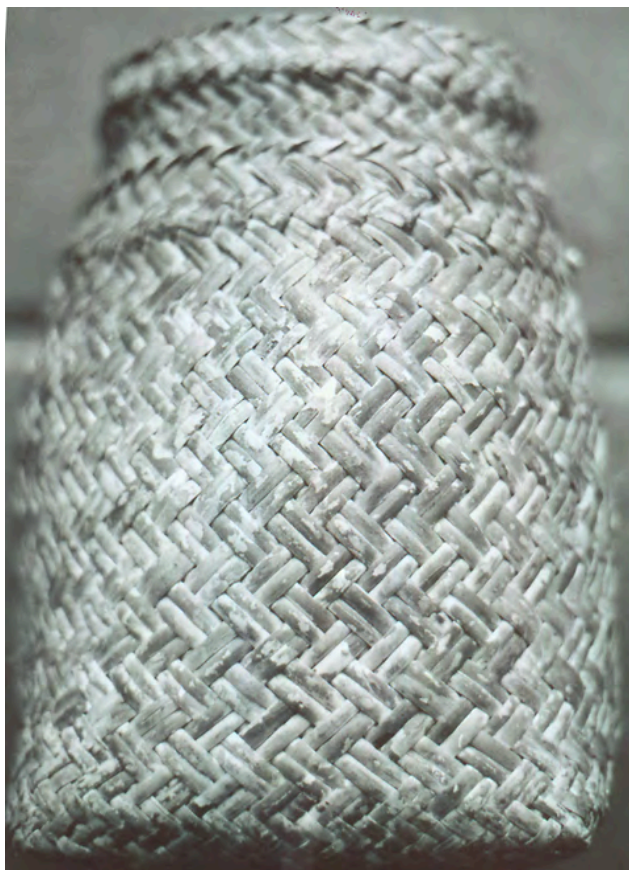


pl.9.39. Ladder, Lg. Kramo' (Kl.)

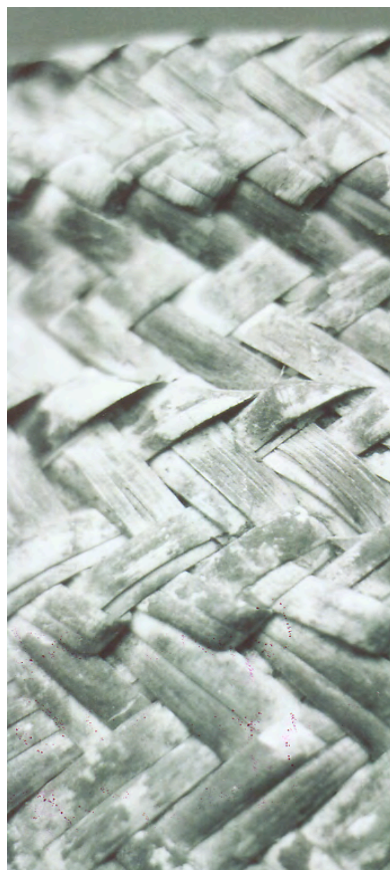


pl.9:40 Leh climbing a ladder to a rice store (K.B.).





pl.9.41 A *barang* made by me in the style used by Salalang.



pl.9.42. *Barang* detail, made by me, using a single direction of pairs.



pl.9.43. A Kenyah Badeng *barang* made by Onyang from *tekla* - *Cyperaceae*.



pl.9.44. Asong, a Kenyah from Lg. Belaong with her *barang*.



pl.9.45. Newspaper flowerpot by Dorothy Busak (Kl.).



pl.9.46. Plastic flowerpot by Gadong.



pl.9.47. Dayang, sitting in front of a Kelabit kitchen fireplace belonging to Salalang, utility objects are stored above it.



pl.9.48. Sina Buad Aran's kitchen fire with *bubu* stored above it.



pl.9.49. Jonikbo and Leh playing with a lorry that they made (K.B.).



pl.9.50. Osats lorry, Lg. Lellang.



pl.9.51. Leh at bathtime, playing with a boat made by his grandfather Asang Lawai.





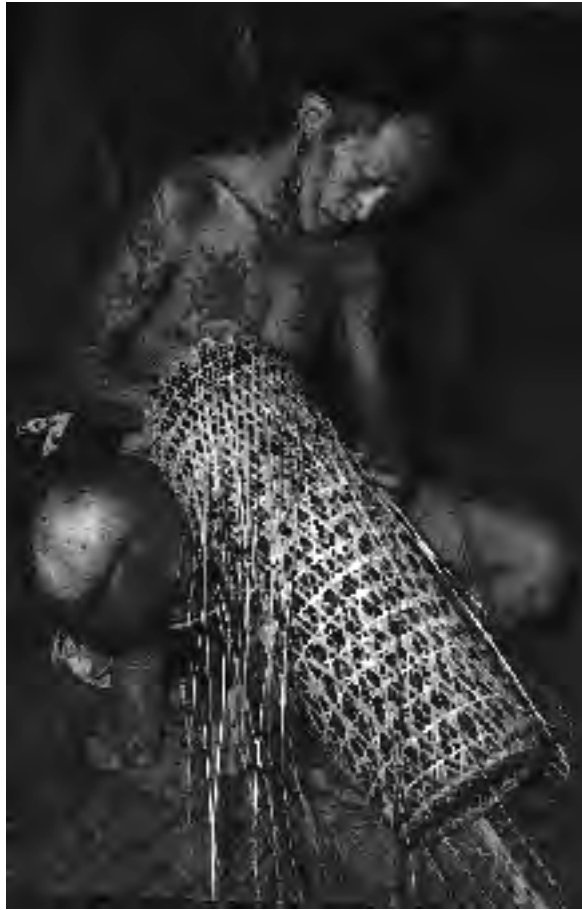
pl.9.52. A Lahanan *gasing*.

## CHAPTER 10.

### MULTIPURPOSE TRAVELLING BASKETS



Fig.10.1. Nohen Migan, a Penan Busang woman collecting tapioca into a *blanyat*.  
June 1971. (Sarawak Museum  
Ld/71).



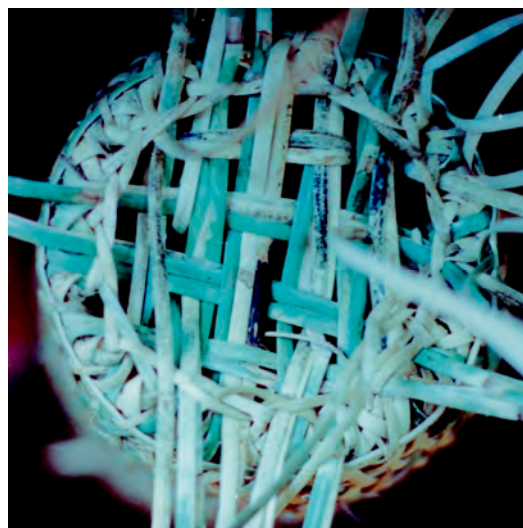
pl.10.2. Penan Busang making a *blanyat*, June 1971. (Sarawak Museum, Ld/350 -3a).



pl.10.3. The attachment of the *ulat* on a *blanyat* started from the base.



pl.10.4. The strands reaching the base, prior to the removal of the horizontal support strands.

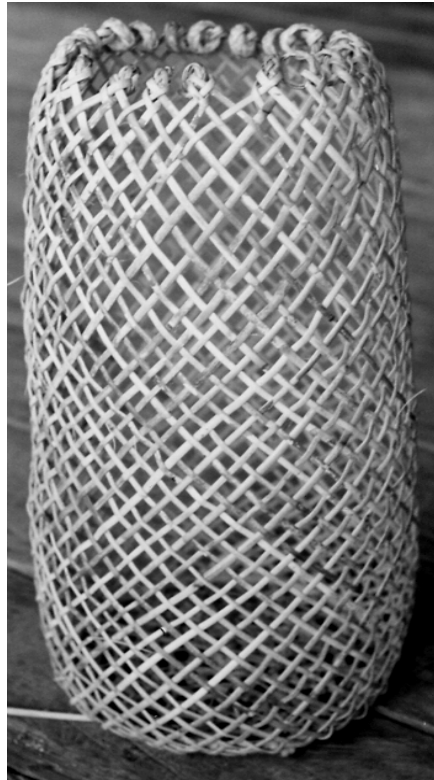


pl.10.5. The start of a woven base.





pl.10.6. Penan Busang making a *blanyat* from the loops down, June 1971 (Sarawak Museum, Ld/86).



pl.10.7. Lahanan *blanyat*.



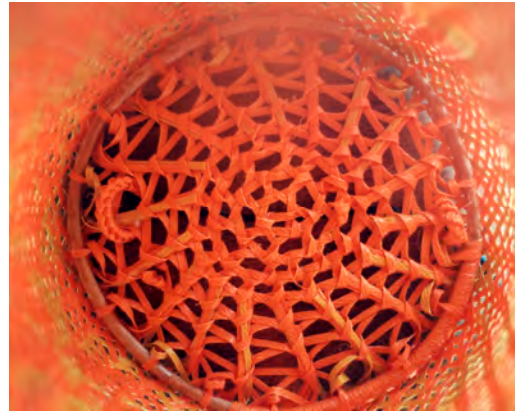
pl.10.8. Various sizes of *blanyat*.



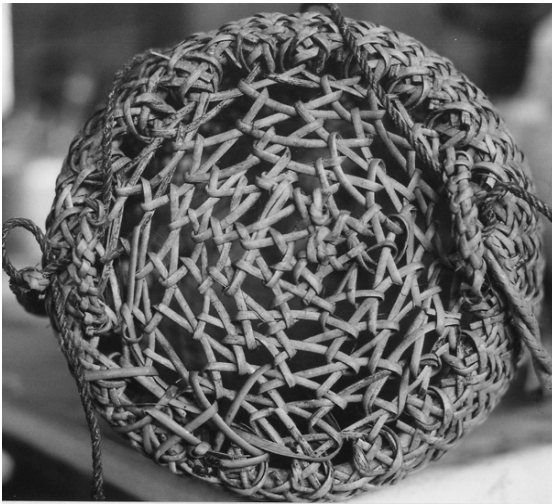
pl.10.9. *Blanyat* belonging to Salalang (Kl.)



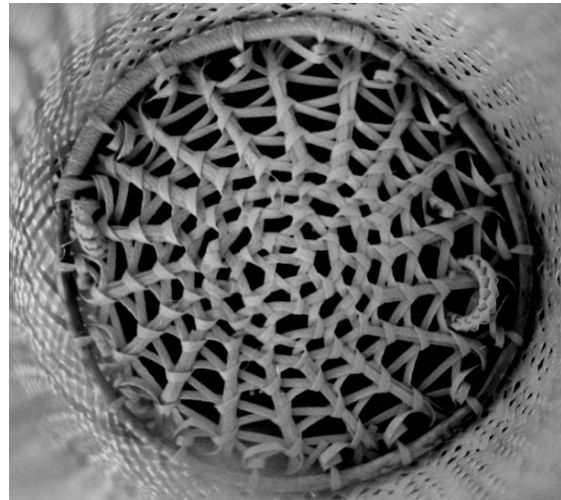
pl.10.10. The start of a *ngratung* weave for a *blanyat* base.



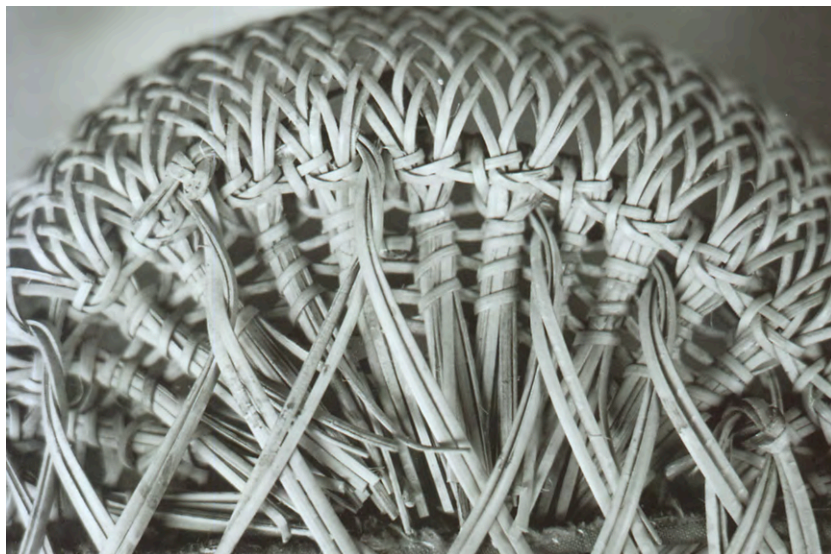
pl.10.11. A plastic *blanyat* base inside.



pl.10.12. *Blanyat* base outside.



pl.10.13. *Blanyat* base inside.



pl.10.14. A part woven *blanyat* base.





pl.10.15 & 16. Grandfather Ladung Kayang producing a *blanyat* from an *ulat* (K.B.).



pl.10.17.  
Grandfather  
teaching Darie.



pl.10.18.  
Small *blanyat*  
from *ulat*.

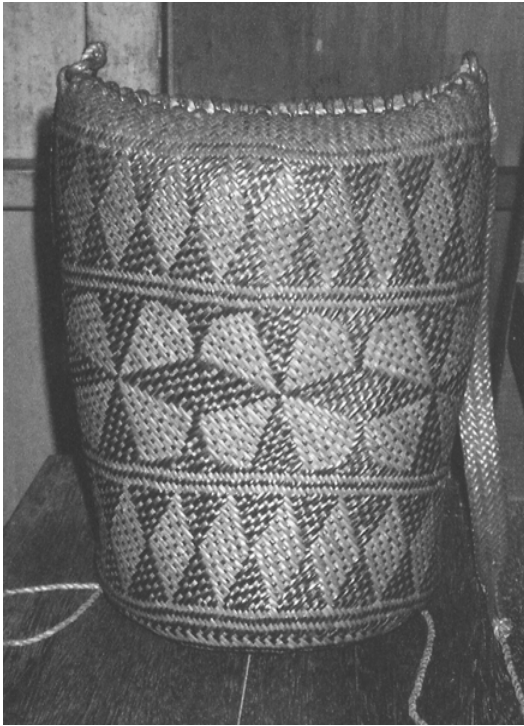


pl.10.19. A Penan Lusong woman making a very large *serut* on a board.  
June 1971 (Sarawak Museum Le/22).



pl.10.20. Terim (K.B.) weaving a *blanyat*.





pl.10.21. A *serut* from Lg. Kramo'.



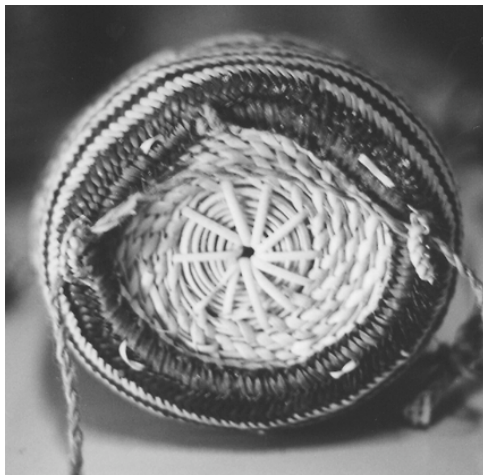
pl.10.22. *Enou* basket in a *serut* style by Talen (Kj.)



pl.10.23. A *blanyat* by Terim (K.B.).



pl.10.24. A *serut* by Seloma, a Penan from Lg. Main.



pl.10.25. & 26. Two *serut* bases.





pl.10.27. E'tin with *serut* made for sale. (K.B.)



pl.10.28. *Serut* and *gawang* for sale at Lg. Main (P.)



pl.10.29. Lahai Kakei making *serut* at her farm near Lg. Kramo' (P.).





pl.10.30. A *gawang* type basket belonging to Lahai Kakei a Penan from Lg Kramo'.



pl.10.31. A Penan *gawang*.



pl.10.32. *Gawang* from the Lg. Main Penan.



pl.10.33. Seloma putting the top rail on to a *gawang* (P.).



pl.10.34. Penan *gawang* and other objects for sale in the museum in Marudi.



pl.10.35. The *kope*.





pl.10.36. A Kenyah variant on the *serut*.

pl.10.37. The outer lid weave.



pl.10.38. The outer base weave.



pl.10.39. The inner lid & base weave.



pl.10.40. Baskets and jewellery on sale to visiting tourists, by the Penan Batu Bungan at their village, Mulu.





pl.10.41. & 42. Plastic shopping bags by Gadong (Kl.).



pl.10.43. Selama Taie making a shopping bag.

pl.10.44. Plastic baskets on sale in a hardware shop in Kuching.



pl.10.45. & 46. Two rattan baskets by Lily at Lg. Main (P.).

## CHAPTER ELEVEN

### PROTECTIVE CLOTHING



pl.11.1. Sebop at Lg. Buvoi, Tinjar, 26.11.1956 (Sarawak Museum Je/26).





pl.11.2. Sina Buad Aran (Kl.) sewing a flat section sunhat.



pl.11.3. Katherine (K.B.) trimming the edge of the hat.



pl.11.4. Sina Buad Aran (Kl.) preparing the rim.



pl.11.5. Darie (K.B.) sewing the rim into position.



pl.11.6. Sebop at Lg. Buvoi, Tinjar, 26.11.1956 (Sarawak Museum Je/31).





pl.11.7. Penan *sa'ung* with skull-cap.



pl.11.8. Penan *sa'ung* for sale in Marudi.



pl.11.9 & 10. Two *ce'uong* by Talen (Kj.), the former is woven in bamboo, the later, from *sang* leaves.



pl.11.11. Two old *ra'ong* from Lg. Kramo' (Kl.)

pl.11.12. A Bhukat woman wearing a sunhat.





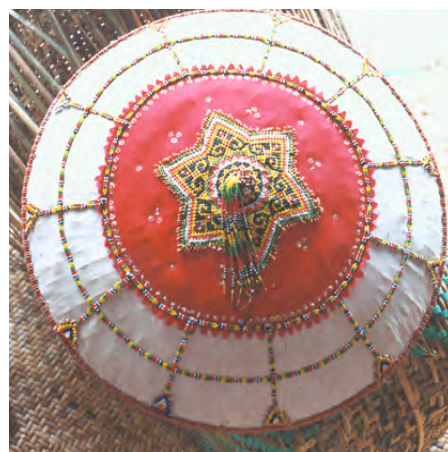
pl.11.13. Yuslie Valentine (P.) wearing a sunhat.



pl.11.14. A Lun Bawang *rong*.



pl.11.15. *Sa'ung* with *okek* by Kokat, Uma Bakah from Badeng design.



pl.11.16. A Sekapan *ce'uong* with a beaded *ukek*.



pl.11.17. *Ukek* by Talan (Kj.)





pl.11.18. Zul from Muzium Sarawak wearing a Penan mans hat.



pl.11.19. Grandfather Ladung Kayang (K.B.) wearing a *tapung ucuk*.



pl.11.20 A close up of Lavong making *atapung ujab*.

pl.11.21. Lavong, a Kenyah Badeng from Lg. Mejawah making *atapung ujab*.



pl.11.22. Lawai (Kl.) wearing a *samit tukong*.

## CHAPTER TWELVE

### BABY CARRIERS



pl.12.1. Kejaman Lasah *beneuung*, belonging to the Tivoi family.





pl.12.2. Lerim carrying Sali in a *bak aban* (K.B.)



pl.12.3. A Kelabit *agau* from Lg. Kramo'. without any decoration.

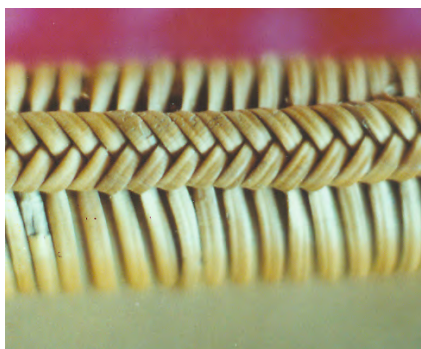
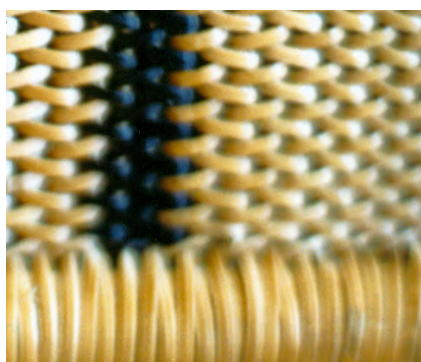
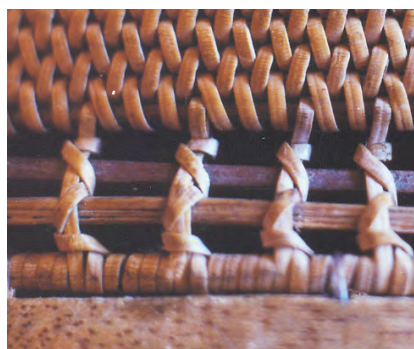


pl.12.4. A Kejaman *beneung*.





pl.12.5. Ping Kayang (K.B.) making a *bak wei*.



pl.12.6. *Bak wei* details (K.B.)



pl.12.7. Uluk in his *bak wei* (K.B.)





pl.12.8. A Penan *tergalau*.



pl.12.9. Detail of a snail shell rattle.



pl.12.10. Oyang with a small dolls *bak* (K.B.)



pl.12.10. A Penan Busang woman, Langin Ngiwai, carrying her child in a tergalau, June 1971. (Sarawak Museum Ld/47).





pl.13.1. Lg. Geng (K.B.) verandah, learning to make a drying mat from *tepo'*. Photo by Darie Linchaw.



pl.13.2. *Gawang* made in rattan and bamboo with natural dyes.



pl.13.3. Three *serut* made in rattan. Rattan for the central *serut* was dyed in the U.K. using blackberries, the designs here are my own.



pl.13.4. *Bu'an*, *ingen* and *saging*, all produced from rattan.



pl.13.5. *Kelung* in rattan, *buaneyap* from *tepo'* and rattan and *blanyat* from rattan.



pl.13.6. *Ah'ap* made from bemban and pandan.





































